

9/820,457

	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	10746	(memory or RAM) near5 tag	US- PGPUB ; USPAT ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 07:36
2	BRS	L2	10819	toner near5 cartridge	US- PGPUB ; USPAT ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 07:36
3	BRS	L3	92	l1 and l2	US- PGPUB ; USPAT ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 07:36

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3	BRS	L3	92	l1 and l2	US- PGPUB ; USPAT ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 07:36
4	BRS	L4	60013 0	retriev\$4 or extract\$4	USPAT	2005/06/10 10:54

	Type	L #	Hits	Search Text	DBs	Time Stamp
5	BRS	L5	16233 43	retriev\$4 or extract\$4	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:56
6	BRS	L6	96588	(customer or consumer or client) near5 (data or database)	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:57
7	BRS	L7	49064	15 and 16	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:57

	Type	L #	Hits	Search Text	DBs	Time Stamp
8	BRS	L8	519	11 and 17	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:57
9	BRS	L9	25114 14	printer or printing or computer	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:58
10	BRS	L10	479	18 and 19	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:58

	Type	L #	Hits	Search Text	DBs	Time Stamp
11	BRS	L11	11991 86	printer or printing	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:58
12	BRS	L12	195	18 and 111	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:58
13	BRS	L13	26193 7	cartridge	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:58

	Type	L #	Hits	Search Text	DBs	Time Stamp
14	BRS	L14	58	l12 and l13	US- PGPUB ; USPAT ; USOCR ; EPO; JPO; DERWE NT; IBM_T DB	2005/06/10 10:59

show files; ds

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Set	Items	Description
S1	492	TAG (3W) MEMORY
S2	3218140	RETRIEV? OR EXTRACT?
S3	352500	(RETRIEV? OR EXTRACT?) (S) DATA
S4	10146652	CLIENT OR CUSTOMER OR USER
S5	0	S1 (S) S3 (S) S4
S6	2	S1 (S) S3

09/820,457

S7 2 RD (unique items)
S8 5402 TONER (5N) CARTRIDGE
S9 1994 TAG (10N) MEMORY
S10 4 S8 AND S9
S11 4 RD (unique items)
S12 6453 RFID (5N) TAG
S13 15972 RFID (5N) TAG??
S14 104142 CARTRIDGE
S15 85 S13 AND S14
S16 40 RD (unique items)
S17 817511 DATA (10N) (USER OR CONSUMER OR CLIENT OR CUSTOMER)
S18 1 S16 AND S17
S19 13 S16 NOT PY>2002

? save temp

Temp SearchSave "TI65910404" stored

?

PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES

?

19/K,9/1 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
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The significant 8

Adams, Russ

Automatic I.D. News v14n13 PP: 10-11 Dec 1998 ISSN: 0890-9768

JRNL CODE: AIN

DOC TYPE: Journal article LANGUAGE: English LENGTH: 2 Pages

WORD COUNT: 1141

COMPANY NAMES:

Symbol Technologies Inc (DUNS:06-597-3067 TICKER:SBL)

GEOGRAPHIC NAMES: US

DESCRIPTORS: Manyproducts; Manycompanies; Product design; Automatic identification

CLASSIFICATION CODES: 7500 (CN=Product planning & development); 9000 (CN=Short Article); 9190 (CN=United States); 5240 (CN=Software & systems)

ABSTRACT: This year's picks of the most significant automatic identification and data capture products and events are discussed. They

include: Symbol Technologies' Symbol SPT 1500 hand-held computer that is

based on threeCom's Palm architecture. In addition to standard personal

data assistant features like managing schedules, contacts and email, the

unit adds bar code scanning and wireless communication.

TEXT: Headnote:

What's happened in the ADC world

during the past year that will have

lasting impact? Find out here

If predicting the future is risky,

predicting the impact of a new

product or event on the future of

an industry is downright haz

ardous. Even if the product or

event should have a lasting im

pact, if the market is not ready oi

simply does not recognize the sig

nificance, the product or event
will disappear without any effect
With that in mind, here are my
picks for the this year's most sig
nificant automatic identification
and data capture (AIDC) prod
ucts and events.

RFLS: New acronym, new products

This year ushered in the introduction of two radio frequency location
systems (RFLS),
(Photograph Omitted)

WiData Firefly from WiData and 3D-iD LPS from PinPoint. Both systems
use
tags affixed to assets and a system of readers located throughout a
buildin. Signals from the readers activate the tags, and the time
delay
between sending a signal and receiving it back from the tag is
measured.

Using results from at least three readers allows the system to locate
a tag
and display its location. The systems function similarly to a
transponder
on an airplane.

RFLS have created a new AIDC product category. These systems satisfy
those
AIDC users that have long desired an RFbased system for locating
capital
assets in a building or containers in a warehouse.

RF/ID for under a buck

Radio frequency identification (RF/ID) tags costing less than \$1 and
the
associated technology were introduced from a number of manufacturers:
Checkpoint Systems, Texas Instruments, Philips Semiconductors, Brady
USA,
Gemplus, Integrated Silicon Design and **RFID**, inc. (formerly
TelsorRFID).
The **tags** generally operate in the 13.56MHz range and can be read
and
written to from 1.5 meters away.

Symbol Technologies announced a commitment to RF/ID-capable product platforms using tags in the 13.56MHz ISM band. It is quite likely the International Standards Organization (ISO) will select this band for a variety of RF/ID item identification applications. These events could combine to make RF/ID into a mainstream AIDC technology-finally.

Improving ERP, AIDC system integration

Two of the first products to simplify the integration of AIDC and enterprise resource planning (ERP) systems, a major stumbling block to ERP system adoption, were introduced this year. Zebra BARONE with JetForm Central from Zebra Technologies and Tattoo ID from Integrated Software Design simplify the process of using data found in ERP system reports to produce bar code labels.

Interest in ERP systems, like those from SAP, Baan and PeopleSoft, is growing. These products are the first ripple of what will be a growing wave of ERP-toAIDC system integration tools.

HA-API news for biometrics

For biometrics, the big news is the announcement of several new application program interfaces, including the Human Authentication API (HA-API) by the U.S. Biometric Consortium, the Advanced Identification Services API (AIS-API) by IBM, and the biometric application programming interface (BAPI); each will have a lasting effect on biometrics. HA-API, AIS-API, and BAPI provide standard names and functions that enable application programs to support a variety of biometric inputs. With a standard API in place, the biometrics industry will find it easier to grow into new applications.

Automatic reorder

Media Magician from Teklynx is the first AIDC product to provide self-reporting of product status. Teklynx acquired Graftek, the product's original manufacturer, in 1998.

(Photograph Omitted)

Introduced this year, it automatically tracks and reorders labels, tags and ribbon based on usage trends, safety stock and lead times. Weekly re-orders are sent automatically via fax or e-mail from production sites to the label

provider.

Self-reporting will be seen in an increasing number of AIDC products in the coming years.

CCD imagers' increasing market share

Among this year's many new CCD imagers, some stood out. Tohken offered a prototype hand-held portable terminal using a CCD imager. Hand Held Products introduced a model of its popular Dolphin portable terminal with both a laser scanner and CCD imager for signature capture. New imagers also were released from Metanetics (the IV-2000 DataMatrix hand-held verifier and imager) and from Welch Allyn (the IMAGETEAM 4400 HD image reader).

Substituting CCD imagers for laser scanners offers some real advantages. CCD imagers can read bar code symbols in any orientation; hand-held laser scanners can't. Because CCD imagers have no moving parts, their fabrication process is simpler compared to that of laser scanners. The imagers also can capture pictures of signatures and of people. Look for CCD imagers to capture an increasing market share of the hand-held scanner market.

Bringing bar codes into the home

This year, Symbol Technologies introduced several new products that will bring bar code technology to many more users, both within the usual office walls and outside them.

The Symbol SPT 1500 hand-held computer is based on 3Com's Palm III architecture. In addition to standard personal data assistant (PDA) features like managing schedules, contacts and e-mail, the unit adds bar code scanning and wireless communication. Putting a scanner into a popular PDA and providing an API for driving the scanner is destined to spawn three-party applications for a new group of bar code users—the managers.

InfoPen from Symbol utilizes a standard ink pen with an integrated bar code scanning wand and decoder, and also the InfoWell docking station, which holds the wand for uploads to a PC and stores the pen when not in use. Developed by Symbol and A.T. Cross, the pen uses standard ballpoint cartridge refills. This product has the potential to expand the use

of bar
code technology into homes.

OCR from a distance

Caere showed a prototype of OCR at a distance at the end of 1997.
Unveiled
early this year by both Caere and Welch Allyn, the OCR Imager system
uses
Caere's OCR Imager software and a hand-held digital camera. The
significant
product features are an ability to read single- or multiple-line
images of
text or data at a distance and the ability to segment the data read
into
different fields. The product also can read a range of one- and
two-dimensional bar code symbologies.

OCR at a distance offers the promise of automatic identification with
existing humanreadable markings. It creates a whole new AIDC industry
product category, the OCR imager.

There you have it. The year's
most influential products and
trends for the AIDC market
But without a crystal ball, we
can only wait and see which
ones impact the market, and
with what force. And with the
new year almost upon us, we
won't have long to wait.

Author Affiliation:

Technical Editor Russ Adams is Webmaster of BarCode 1, the first Web
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Adams Chronicle. He was keynote speaker at the first ID EXPO, has
written
three books about bar code and ADC and authored the first studies of
the
bar code market in 1986.

THIS IS THE FULL-TEXT. Copyright Advanstar Communications Inc 1998

...TEXT: of manufacturers: Checkpoint Systems, Texas Instruments,
Philips

Semiconductors, Brady USA, Gemplus, Integrated Silicon Design and **RFID**, inc. (formerly TelsorRFID). The **tags** generally operate in the 13.56MHz range and can be read and written to from...

...not in use. Developed by Symbol and A.T. Cross, the pen uses standard ballpoint **cartridge** refills. This product has the potential to expand the use of bar code technology into...

19/K,9/2 (Item 2 from file: 15)
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Material handling tunes in

DeJong, Colleen A

Automotive Manufacturing & Production v110n7 PP: 66-69 Jul 1998

CODEN:

PDTNAG ISSN: 1086-9298 JRNL CODE: PRD

DOC TYPE: Journal article LANGUAGE: English LENGTH: 4 Pages

WORD COUNT: 1846

GEOGRAPHIC NAMES: US

DESCRIPTORS: Materials handling; Identification systems; Radio frequency;

Advantages

CLASSIFICATION CODES: 9190 (CN=United States); 5160

(CN=Transportation);

5240 (CN=Software & systems)

ABSTRACT: As systems have gotten more sophisticated, users have been able to merger the two tasks of material handling and parts tracking. One of the more recent developments is radio frequency identification (RFID). Basically, RFID is the next evolutionary step in the bar coding family. Instead of printed bar code labels, there are radio transponder tags that can contain memory and processing power. How much memory a tag contains varies from only enough bytes to hold an ID number, to several kilobytes for holding, for example, all of the work-in-progress data of an assembly. Unlike bar code labels, information can be updated or changed, and they can be used again and again. RFID systems offer several advantages over traditional tracking systems. One of which is that more information

can be
encoded into the tag than other systems, such as bar coding.

TEXT: Headnote:

The latest thing in tracking works in progress involves a radio. But
radio
frequency identification systems are capable of more than just
cranking out
Top 40 hits.

Getting parts from here to there is one thing, but knowing what
happened to
them along the way is quite another. As systems have gotten more
sophisticated, users have been able to merge the two tasks of
material
handling and parts tracking. One of the more recent developments is
radio
frequency identification (RFID).

Basically, RFID is the next evolutionary step in the bar coding
family.
Instead of printed bar code labels, there are radio transponder tags
that
can contain memory and processing power. How much memory a tag
contains
varies from only enough bytes to hold an ID number, to several
kilobytes
for holding, for example, all of the work-in-progress data of an
assembly.
Unlike bar code labels, information can be updated or changed, and
they can
be used again and again. In the case of Omron Electronics Inc.'s
(Schaumburg, IL) V600-HA Intelligent Flag system, the tags can be
reused at
least 300,000 times.

Sure, if they last that long, right? **Tag** durability is an issue
RFID
system designers have been dealing with. Most tags are sealed,
encapsulated, or otherwise engineered to withstand nearly anything
the
factory floor can dish out. For example, HotTrak **RFID tags** from
Rockwell Automation (Milwaukee, WI) are designed to take the heat of
things
such as paint shop applications. The tags' plastic housing can
withstand
temperatures up to 200 deg C.

The other component to an RFID system is the reader, or antenna.
These
units send out a radio signal that activates the tags, which send
information back to the reader. Most readers work within the low-
frequency

range of about 120 to 130 kHz. Systems with frequencies higher than this are more costly, but they give users greater read/write ranges between the antenna and the tags.

(Photograph Omitted)

Captioned as: The Intelligent Flag controller from Omron Electronics is surrounded by the eight photoelectric sensors it replaced at a Panasonic installation.

Since RFID systems are radio-- based, they need regulatory approval, and must meet the standards of a couple of different organizations. Don't let this intimidate you. The hassle of making several government agencies happy is handled by the manufacturer.

IDing the ID system

Combined into a system, the reader/ antenna and tags can be classified as either passive or active, and as either read-only or read-write. A passive

RFID system has **tags** that do not contain their own power source. Instead, they rely on the reader for power (sort of like a magazine editor). Tags in an active system have their own power source, most likely a small, lithium battery. Passive tags are generally less expensive, and have a theoretically indefinite life, but active tags have a higher reading range.

The difference between read-- only and read-write systems is also a matter of what the tags can do. With a read-only system, tags are preprogrammed with a unique identification code or other bits of information, and that can never be changed. Read-write tags can have their data updated, added to, or changed all together.

Overall . . .

RFID systems offer several advantages over traditional tracking systems. One of which is that more information can be encoded into the tag than other systems, such as bar coding. And while many potential users balk at

the initial investment (tags alone can cost anywhere from \$10 to \$50 apiece), those who are already using RFID systems point out that it is basically a one-time cost. Transponder tags can be used again and again, whereas bar code labels can only be used once, so you're constantly buying new ones.

RFID systems are also more dynamic than the average material/product tracking system. They change and grow as often as needed, and the information in each tag can be changed and updated as the part moves from process to process.

More Specifically ...

While all RFID systems have the same basic components and capabilities already mentioned, each system maker adds its own "zing" to its system. The Intelligent Flag system touched upon previously from Omron Electronics gets its "zing" not only from the longevity of its tags, but also from its ease of use. The system does not require any specialized programming at initial setup, and users don't have to spend hours checking for proper positioning and possible interference during installation. The system is not influenced by either factor.

The Intelligent Flag system can be used as a stand-alone system, or it can be connected to PLCs, sensor controllers, and other devices for more advanced data management. Users can choose between the V600-HAR91 read-only amplifier, or the HAM91, which reads, writes, and verifies tag data. Both of the models have the ability to run in auto mode or in an external-trigger synchronous mode. Write in 152 on the RSC.

Durability is key to the IntelliTrak RFID system from Rockwell Automation.

Not only are the tags epoxy-- encapsulated for harsh industrial environments, so are the antennas, which also don't contain any moving parts or mechanical switches. This cuts the possibility of future maintenance problems significantly. But toughness doesn't mean you sacrifice functionality. The antennas are capable of converting digital signals from controllers and other data devices into radio frequency signals, and vice versa. Other features of the system include variable tag-to-antenna orientation, three variations

of
data tags, and up to 32Kb ram on the tags. Write in 153 on the RSC.

Truckin'

(Photograph Omitted)

Captioned as: Up and Over

Unless you're Superman, chances are you're (at least occasionally) using some sort of hand truck, fork lift, or other vehicle to move the really heavy stuff from here to there. One such vehicle is the Cat Hand Pallet Truck from Caterpillar Lift Trucks (Houston, TX). Engineered for capacities up to 5, 000 lb., the steel-framed truck features automatic handle return, and articulated steer wheels. Write in 158 on the RSC.

Mitsubishi Forklift Trucks (Houston, TX) makes a line of pallet movers in basically the same weight class (6,000 lb. and 8,000 lb.), but with a more ergonomic flavor. The "walkies" have a neutral position for walking and riding, and twist grips angled to match the natural orientation of an operator's hands. The control lets the operator use the twist grips, thumb grips, or outboard knobs to control the movement of the pallet mover. Write in 159 on the RSC.

Another contender in this weight range is the Daewoo GC series of lift trucks with capacities of 4,000 lb., 5,000 lb., and 6,000 lb. The lift trucks also feature oil-cooled disc brakes, a 2.7-liter engine, and an ergonomically designed operator's compartment. Write in 160 on the RSC.

For more weighty matters, DJ Products (Plymouth, MN) makes the CartCaddy5W for pulling loads up to 20,000 lb. Key features here include pivot point location over the transaxle for better maneuverability, ergonomically designed driving controls, and a heavy-duty battery that keeps the cart running throughout an entire shift. Write in 161 on the RSC.

Heated Discussion

Electrocoating (E-coating) is a pretty hot topic (pun intended) these

days.

And getting parts in and out of the oven requires a pretty sturdy conveyor system. With this in mind, Precision Conveyor Technologies (Eastlake, OH) designs and implements turnkey conveyor systems for E-- coat, and other finishing applications. The company's chain-on-- edge spindle conveyor system is designed with the guide bearing, chain, V-wheel, and other chain motion components below the chain guard and layer of insulation, keeping them cooler, and less susceptible to thermal expansion. Write in 162 on the RSC.

Rexnord Corp.'s Link-Belt Bearing division (Indianapolis, IN) makes spherical roller bearings engineered specifically to take the heat of an E-coat oven. Aside from a special configuration to accommodate enclosed, elevated ovens, the bearings feature fixed and expansion pillow block and flange **cartridge** units paired together to accommodate thermal expansion. The specially lubricated units can take temperatures up to 440 deg F. Write in 163 on the RSC.

Package Deal...

(Photograph Omitted)

Captioned as: The Link-Belt bearings pictured here are a part of the conveyor system at the painting facility at Ford's Ontario Truck plant.

In more ways than one. Returnable packaging is nothing new, but some companies are, well, thinking out of the box, so to speak. Here are just a couple examples:

Orbis-Menasha Corp. (Oconomowoc, WI)-Orbis has a program called "ORBIS Project Management" that uses teams of engineers and consultants to plan, design, implement, and track the results of returnable packaging systems. There's even an on-site washing service in certain areas. The company has done extensive work at three Chrysler assembly plants, saving the company almost \$300,000. Write in 164 on the RSC.

Ropak Materials Handling Group (Georgetown, KY)-- manufactures a variety of plastic, laminated, and other corrugated cartons. For example, the company makes a line of collapsible containers that fold down to about one-third their original size. Write in 165 on the RSC.

Here To There

(Photograph Omitted)

Captioned as: A lot of little parts go into putting "zing" into the Plymouth Prowler. Shipped in from suppliers, the parts (in their properly colored containers) are placed on flow racks along the assembly line. When empty, they simply go to the return flow lane where they are picked up and shipped back to the supplier where they are filled up and shipped back.

Here's a quick look at a few systems designed to keep things moving:

Span-Guard and Tri-Bar/Four-Bar systems from Universal Standard Safety Trolley Corp. (Pittsburgh, PA) are conducting systems for cranes, hoists, conveyors, and other moving systems. Span-Guard systems are made to handle harsh environments, while Tri-Bar/Four-Bar systems are designed for automated applications. Write in 166 on the RSC.

A little different than the monorail at Disney World, the Space Carrier electrified monorail system from Eskay Corp. (Salt Lake City, UT) is intended for the automated transport of materials, rather than people. The carriers can travel at speeds up to 574 ft/min., and are available with conveyor, cage, or clamp attachments for various load types. Loads up to 110 lb. can be accommodated. Write in 167 on the RSC.

Automatic Transfer Cars (ATCs) from Matthews Conveyor (Danville, KY) are being used by a Honda car seat supplier to transfer seats from one station to the next. On-board intelligence ensures that the seats are placed in the correct storage area, and that shipping transfer cars pick up the right seat and put them in the right shipping lane. Write in 168 on the RSC.

Meanwhile, at Ford's Dearborn Glass Plant, custom automation provider Peak Industries, Inc. (Dearborn, MI) has installed an automatic conveyor system that transports windshields from a bending oven to a washer. Various belt and roller conveyors, storage racks, transfer carts, robots, and other equipment are coordinated by PLCs, logic systems installed on the shuttle carts, and sensors. Write in 169 on the RSC.

(Photograph Omitted)

Captioned as: A robot in the Peak Industries' conveyor system designed for Ford places each windshield onto a storage rack as it comes out of the bending oven.

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...TEXT: can be reused at least 300,000 times.

Sure, if they last that long, right? **Tag** durability is an issue **RFID** system designers have been dealing with. Most tags are sealed, encapsulated, or otherwise engineered to withstand nearly anything the factory floor can dish out. For example, HotTrak **RFID tags** from Rockwell Automation (Milwaukee, WI) are designed to take the heat of things such as...

...as either passive or active, and as either read-only or read-write. A passive **RFID** system has **tags** that do not contain their own power source. Instead, they rely on the reader for...to accommodate enclosed, elevated ovens, the bearings feature fixed and expansion pillow block and flange **cartridge** units paired together to accommodate thermal expansion. The specially lubricated units can take temperatures up...

19/K,9/3 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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10123421 Supplier Number: 91304504 (THIS IS THE FULLTEXT)
Find your solution. (2002 Show Preview).
Frontline Solutions, v3, n8, p40
August, 2002

Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Professional
Word Count: 3691

TEXT:

More than 200 exhibitors will pack the show floor at this year's Frontline

Solutions Supply Chain Week Conference and Exposition.

On display you'll find the latest hardware and software solutions for supply chain automation, including mobile computers, label printers and printer/applicators, fixed and mobile bar code scanners, weighing systems, application development software, wireless networking equipment, and a wide variety of application software from warehouse management to field service and beyond.

A

ACCU-SORT

Accu-Sort Systems has released the AccuVision (AV) 3800 CCD camera-based bar code reader and the Sentient RFR-02 fixed-position RF tag reader.

The compact AV3800 will use camera link image data interconnection. It also features improved thermal management, eliminating the need for an external fan and reducing maintenance requirements. The AV3800 is capable of more than 15,000 scans per second and can read both linear and two-dimensional symbols omnidirectionally at conveyor speeds up to 600 fpm.

Accu-Sort's Sentient RFR-02 fixed-position RF tag reader is designed for use in factory automation, automated material handling and asset identification applications. The unit is compatible with the ISO 15693 standard, allowing it to read and write to passive tags (RF transponders) operating at a frequency of 13.56MHz.

www.accusort.com

AGENTEK

Agent Mobile allows high-speed connectivity from a mobile computing device via any communication network, including satellite and terrestrial based networks, to a host system, ERP system, relational database or groupware system. It operates on any Microsoft Windows-based device and provides connectivity speeds similar to a local area network connection combined with security features.

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ASAP AUTOMATION

ASAP Automation's Exacta family of supply chain logistics solutions integrates material flow, directs operator activities and provides real-time system information. The Exacta line enables visibility across the supply chain for business partners and customers, collaboration with business partners, automated data collection, real-time employee performance metrics, immediate error notifications, extensive reporting and activity tracking tables.

Exacta solutions feature put away, picking and sortation/Wave algorithms, user interface screens to minimize errors, wizards for modifying rules, on-line operational procedures for each employee, integration with automation controls diagnostics, product images for quick recognition during picking and put away operations and synchronized real-time ERP host transactions.

www.asapauto.com

C

CHEMLINK

The CBR Series Wireless Hand-held Terminal from ChemLink, a division of CHEM, is a long-range wireless hand-held terminal. It operates in the license-free ISM band at 2.4GHz, and uses frequency hopping spread spectrum technology. Designed for long-range transmission, its range is up to 2 miles with omni-directional antenna line of sight to the horizon. The CBR Series Wireless Hand-held Terminal is suited to warehousing, inventory control, document tracking, shop floor management, asset tracking, distribution and postal operations.

www.chem.com.tw

CITADEL COMPUTER

The VISTA series of touchscreen, PC-compatible computers from Citadel Computer Corp. are network ready for either cable or wireless 802.11b networks and are designed to support supply chain process control applications.

The computer enclosures are constructed of hardened aluminum with options to enhance protection from low temperatures and condensation. Among the features: an Intel Pentium III processor that operates at speeds of up to 1GHz; a standard architecture that can run Linux, MS-DOS, Windows CE, 98, 2000 and XP; an on-board uninterruptible power system and an internal wide-input power system.

www.citadelcomputer.com

D

DENSO

DENSO's batch terminal, the Barcode Handy Terminal 8000, feature CCD advanced bar code scanning technology for decoding poorly printed labels, a vibration indicator, two additional ergonomic thumb triggers, and optional synchronization and rapid development software. The pocket-sized BHT-8000 is suited for rugged markets such as route accounting, track and trace, security and medical data collection applications.

www.denso-id.com

DIRECT RECRUITERS

Direct Recruiters, Inc. (DRI) is expanding its recruitment services within the wireless mobile computing industry to focus on hardware and software with an added emphasis on ruggedized pen, hand held, tablet and notebook computing.

www.directrecruiters.com

E

ENTERPRISE LABEL

Enterprise Label Co., is making its debut appearance at Frontline Expo. Enterprise Label, now in its 40th year of business, assists companies with compliance labeling and sells labels direct.

www.elabelinc.com

F

FRONTLINE SOLUTIONS

Stop by the booth of show sponsor Frontline Solutions magazine to meet the staff, pick up sample issues and sign up for a subscription. Give us your feedback and story ideas. We welcome your input!

www.frontlinetoday.com

H

HAND HELD PRODUCTS

Hand Held Products' Dolphin 7450 Mobile Computer is now available with a pistol grip form factor and optional WLAN communications for high-volume scanning and wireless data processing.

The Windows CE 3.0-based 7450 features a choice of three alpha-numeric keypad options, a large 11/44 VGA display with optional touchscreen capability, and up to 256MB of Compact Flash memory for additional data storage.

The unit provides omni-directional reading of many popular linear and 2D symbologies, and also performs optical character recognition (OCR) as well as signature and photo capture.

www.hhp.com

HARVARD BATTERY

Harvard Battery Inc. (HBI) is a supplier of replacement

batteries

and accessories for the hand-held computing and bar code scanning markets.

Nearly all of its products carry a one-year warranty and are guaranteed to

meet or exceed the OEM's specifications. The company provides replacement

battery packs, cables, portable printers, charging systems and more.

www.harvardbattery.com

I

INTEGRATED WAREHOUSING SOLUTIONS (IWS)

Integrated Warehousing Solutions' (IWS) Progress-based IRMS warehouse management system provides a foundation to track business processes for supply chain integration, knowledge delivery, productivity,

accuracy and customer satisfaction. IRMS can prioritize and route inbound

inventory to handle just-in-time, cross dock, flow-through and back order

opportunities. Smart putaway algorithms consolidate inventory and optimize

storage to reduce handling costs.

www.iws-irms.com

INTELLIGENT INSTRUMENTATION

Enhancements to Intelligent Instrumentation's LANpoint CE vehicle-mount and stationary-mount data collection terminals include the

addition of touch screen functionality, an optional display heater for

lower temperature applications and expanded connectivity to third-party

802.11b radio technologies from Symbol, Cisco, Proxim and Lucent.

The rugged, Windows CE computers have a touchscreen option, as well

as a built-in bar code decoder that provides plug-in compatibility with

both undecoded and decoded laser scanners and wand emulation devices.

www.lanpoint.com

INTERMEC TECHNOLOGIES

Intermec Technologies Corp.'s 700 Color mobile computer provides

enterprise mobility with its ability to integrate up to three radios in a

single device, including 802.11b and Bluetooth technologies. Its optional

linear imaging or laser scanning technologies offer data and image collection, and its battery capacity provides up to 10 hours of

operation

between rechargings.

Also from Intermec:

The wireless ScanPlus Vista 1802, which brings the performance of

Intermec's Vista scan engine to retail, health care, office and light industrial environments. Capable of reading both linear and 2D bar code

symbolologies, the device frees the user from the limitations of a tethered scanner.

The MobileLAN WA 21 wireless access point is a next-generation dual-radio wireless access point that incorporates 802.11b and 802.11a wireless networking technologies.

www.intermec.com

ITRONIX

The Itronix GoBook MAX rugged wireless notebook computer exceeds military specifications for drop, water resistance, dust and vibration. The 6.2-pound GoBook MAX is powered by a 700MHz Intel Pentium III processor and features a shock-mounted 20GB hard drive, a 10.4-inch TFT display with anti-glare and touchscreen capabilities, a waterproof glow-in-the-dark keyboard and integrated wireless communications. Itronix computing products are designed for field organizations trying to deliver new services or higher levels of service quality through wireless optimized dispatch applications.

www.itronix.com

J

JLT MOBILE COMPUTERS

JLT Mobile Computers Inc. (formerly TNAC) has released three new rugged computer models, the JLT1001C, JLT1201C and JLT1501C. The JLT1001 has a 10.4-inch display, the JLT1201 a 12.1-inch display and the JLT1501 a 15.1-inch display. The computer terminals offer customers expandable 64MB to 256MB of RAM, multiple display options and Intel Pentium processors from 266 to 700MHz. Configure the terminal as you want it: choose from Windows 98, 2000, XP, Embedded XP or Linux operating systems.

The JLT1001 is a cost-effective Windows terminal for automated warehousing or fleet vehicle/delivery. The JLT1201 is ideal for applications that need a slightly larger display or extra outdoor brightness (600NITS), such as shop floor automation, cross-docking, vehicle mounting and service/repair applications. The JLT1501 is the company's flagship terminal for kiosk, machine automation and floor control.

www.tnacorp.com

K

KNAPP SOFTWARE

The i3-WMS, Version 9.0 from KNAPP Software, a division of KNAPP Logistics & Automation, features a redesigned order scheduler module,

wave

planning capabilities, a 3PL package and a reporting package.

The order scheduler module was redesigned to meet the demands of

high-volume and fast order processing. Wave planning allows an in-depth

look at the results of a wave before deciding to release it. The third-party logistics (3PL) package provides handling, tracking and billing

capabilities. The reporting package provides the ability to initiate various reports, automatically or manually.

www.knappusa.com

L

LINX DATA TERMINALS

The LINX VII and VIII terminals, designed for enterprise networking,

allow users to interface to many types of data collection devices. LINX-designed RAD tools and C/C++ or Visual Studio .NET and LINX drivers

permit the VII and VIII to interface to bar code, digital I/O, wireless

LAN, proximity readers and biometric devices.

The LINX Evolution product is a suite of XML-based Windows services

that provide access to LINX series terminals across heterogeneous networks

by a common XML document type descriptor (DTD).

www.linxdata.com

LXE

LXE's MX4 Windows CE hand-held computer features the Intel SA-1110

RISC 206MHz processor and a VGA monochrome display with touchscreen. With

its built-in heater, 5-foot drop capabilities, and IP67 underwater seal,

the MX4 can handle harsh environments.

LXE's MX1 rugged computers can be taken into any explosive environment requiring intrinsically safe equipment--the device now has an

all-encompassing T4 rating.

RFTerm is LXE's terminal emulation software for Windows CE. This

software enables users to purchase Windows CE-based hardware and continue

to use terminal-based applications software.

LXE has added a color screen option to the popular MX3-CE hand-held

computer. The company has also added legacy terminal emulation support to

the VX4 vehicle-mounted computer to allow a seamless migration from legacy

TE applications (900MHz or 2.4GHz) to Windows-based GUI or browser-based

applications.

www.lxe.com

M

MAXRAD

MAXRAD's Michelangelo line of wireless in-building antennas includes the MCD2400PT and the wall-mount MDO24005PT. Both models provide the coverage of two omnidirectional antennas within a single housing. Covering frequencies from 2400 to 2485 MHz, the antennas provide 2.5 dBi gain with a VSWR of less than 1.5:1. The result is maximum coverage for in-building wireless LAN networks.

www.maxrad.com

MICROSCAN

Microscan's latest bar code reader, the Quadrus EZ, combines the functionality of a vision system with the ease of use and price point of a laser bar code scanner. An out-of-the-box solution for decoding both linear and 2D symbologies, Quadrus EZ's field of view locator allows users to quickly align the reader to the symbol without the use of video monitors or a PC. Once the symbol is aligned, the user can push the "auto" button to automatically calibrate on the symbol.

Quadrus EZ can decode 60 codes per second and features video input/output, USB and Ethernet connectivity.

www.microscan.com

P

PHILIPS SEMICONDUCTORS

Philips offers IC-based identification technology covering all RFID and smart card applications. For **RFID**, Philips has **tag** and reader ICs for all relevant frequency bands including 125KHz (HITAGTM) and 13.56MHz (I*CODE and MIFARE).

The 125KHz-based HITAG family of passive radio frequency identification (RFID) ICs is designed for an array of identification applications including access control, asset tracking, electronic locks and animal identification.

www.semiconductors.philips.com

PROVIA SOFTWARE

Provia Software's ViaWare supply chain fulfillment and ViaView supply chain collaboration suites include warehousing, transportation, order and yard management products, and standard templates for integrating to other enterprise applications. Web-based visibility, event management and decision support tools create a real-time, end-to-end supply chain

fulfillment solution that establishes a competitive advantage for clients and their customers.

www.provia.com

PSION TEKLOGIX

The 8560 ruggedized wireless computer from Psion Teklogix can be used in both vehicle-mount and fixed locations. It is equipped with a 10.4-inch, high-resolution, back-lit color touchscreen display. The unit has an IP54 rating and meets and exceeds NATO military specification 810E.

It can withstand shocks and vibrations, and can function in temperatures

from 140(degrees)F/60(degrees)C to -4(degrees)F/-20(degrees)C.

Psion Teklogix will also display the netpad 3500 rugged hand-held tablet; the netBook sub-notebook-sized unit for mobile sales, service and professional field applications; and the Workabout mx rugged hand-held computer for commercial and industrial applications.

www.pSIONteklogix.com

R

RFID INC.

RFID Inc. is unveiling three new products this year. The RS485 line of 125KHz readers operates with protocol interfaces of serial, Ethernet, DeviceNet, Profibus, Modbus, and Remote I/O. Used by themselves these readers output serial. When multidropped, up to 32 nodes, the readers can

then be plugged into one of the above RFID, Inc. protocol interfaces.

RFID Inc. has developed an RFID Wand that replaces products from Brady and Motorola. The RFID Inc. wand has enhanced features and runs on a 9-volt battery.

The company's long-range active anti-collision tag system is designed for toll, fleet/gate tracking and asset tracking applications.

There is no external antenna to the reader--it is contained in a single

4-inch square box with a whip antenna, reading as far as 200 meters. Tags

can be mounted behind metal vehicle bumpers and still be read, according to the company.

www.rfidinc.com

RPA WIRELESS.

RPA Wireless is a wireless systems integrator offering hosted wireless messaging, database management, client application development and

host integration services. RPA's wireless gateway provides a single interface to 100% of wireless carriers and devices as well as to all

platforms and software packages.

Inbound and outbound messaging services are available around the globe. In case of power outages or network failures, the Web-based Mercury

system can be used for backup and disaster recovery situation.

ATLAS, a field service solution, allows mobile technicians to update schedules, search for inventory, process orders, escalate and close out calls.

www.rpawireless.com

S

SATO AMERICA

The new Stand-Alone HT200e direct-thermal printer from SATO America

has a compact footprint of 5.2 by 9.06 by 5.94 inches, weighs 5.3 pounds

and has a print resolution of 203 dpi, printing speeds up to 3 ips and the

ability to print labels and bar codes at the touch of a button. The unit is

designed for mark down labeling, shelf labeling, price marking, stock control and other applications.

SATO's WPC Plus Web-based printer control feature provides control

over bar code printing applications. The system gives users the freedom to

communicate and configure bar code printers from virtually anywhere, and

its intuitive design makes it user friendly.

Remote administration and configuration allow users to manage multiple printers with an easy to use interface, and provides unsolicited

printer error and status notification in real-time via any Web-enabled,

wired or wireless device.

www.satoamerica.com

SECURA KEY

Secura Key, with more than 30 years of experience manufacturing

access control cards, packages RFID transponders in a variety of form factors. Digital printing, variable data, laminating and encoding are available.

www.securakey.com

SICK, INC.

The CLV 420, 421 and 422 palm-sized scanners from SICK, Inc. have a

scanning range of 2 to 29 inches and can provide 400 to 1,200 scans per

second. The CLV 421 is suited to reading lower density bar codes. The CLV

422 reads high-resolution, high-density bar codes. SICK's automatic triggering technology allows all models in the 420 series to automatically

sense a package to activate bar code reading.

SICK's CLX 490 compact, industrial omni directional scanner incorporates automatic focus control, SMART technology, a high scan rate and package tracking.

Its SMART (SICK's Modular Advanced Recognition Technology) processes complete bar code images before decoding.

www.sickusa.com

SOFTBARS

SoftBars software helps retail businesses and manufacturers comply with the Uniform Code Council's Global Trade Item Number (GTIN) 2005 Sunrise bar code standards.

With SoftBars, there is no cutting and pasting from one application to another for bar code creation, or a need to purchase extra fonts, specialized printers, SIMMs or DIMMs.

SoftBars can create bar codes in applications that allow the user to select fonts from the Windows font directory, such as Word, Excel, Access, WordPerfect, WordPad, and others. It supports HP and other laser printers that use the PCL 5 printer language.

A free demo is available at www.softbars.com.

SYMBOL TECHNOLOGIES

Symbol Technologies solutions are based on its three core technologies--wireless LAN and WAN communications, rugged mobile computing and laser bar code scanning.

Symbol's rugged mobile computing products, including the PDT 8100 and PDT 8000 (its newest hand-held devices), are ideal for mobile worker markets, including route accounting and direct store delivery. The company's wireless LAN infrastructure offers secure access to corporate data for mobile workers.

Symbol manufactures an array of scanning products--from hand-held scanners that scan from up to 45 feet away and Bluetooth-enabled cordless ring scanners to the company's tiny OEM scan engine product.

www.symbol.com

T

TALLY PRINTER CORP.

The T6212 line matrix printer can handle workloads up to 345,000 pages per month at speeds up to 1,200 lines per minute.

The T6212's proprietary controller device intelligently arranges data into page "segments" prior to printing, allowing text and graphics to be printed in one pass and eliminating the need for forms reversal.

It features a 13.6-inch print width, a 250-million SmartRibbon Cartridge , and popular graphics languages. It has a cost per line per minute of \$6.46.

WebPanel, part of the LanPlex utility interface, is an embedded Web server that allows complete configuration via the network with any standard Web browser.

www.tallyus.com

TEKLYNX

TEKLYNX International's SENTINEL Print Pack S/3 for SAP is a certified bar code labeling and integration software package. Working as an

SAP Software Partner, TEKLYNX has designed the latest version of SENTINEL

Print Pack S/3, a Windows 2000 Server based print management software, to

be integrated into SAP. SENTINEL takes the capabilities of SAP's Smart

Forms and adds label design plus integration with SAP-generated data.

www.teklynx.com

T.L. ASHFORD

Compliance has become an issue for nearly every company in the supply chain regardless of size. It is important for companies to be able

to access compliance templates in a timely manner to meet their compliance

deadlines. As a certified source for IBM AS400/iSeries compliance labels,

T.L. Ashford has made a commitment to fulfilling those compliance needs. A

compliance library is maintained by the company to serve the Barcode400

users. Examples and templates of many of the recent compliance labels will

be available at the company's Frontline Solutions Expo booth.

www.tlashford.com

THARO

Tharo Systems' EASYLABEL 32 software is designed for easy custom

designing and printing of bar code and product identification labels and

tags on a variety of thermal transfer, laser and dot matrix printers. The

company's industrial strength thermal transfer bar code label printers and

printer-applicators can run with or without a PC attached.

www.tharo.com

U

UNIBAR

Unibar, Inc.'s X-BARZ for Microsoft Windows applications and Web

pages is designed for end users and application developers using

Microsoft

.Net or Active-X. X-BARZ offers an interface that end users can operate without bar code programming expertise.

X-BARZ creates Microsoft metafile graphics that are scalable, device independent, and high resolution as well as data binding so data fields can be bar coded automatically when printing reports, labels or other documents. X-BARZ enables users to print bar codes supporting major linear symbologies as well as PDF417 (2D). It supports laser, dot matrix and Windows printers.

www.unibar.com

VIDEX

The CyberKey Validator provides key control in applications with high personnel turnover.

Users receive their access privileges each day at the exterior of a warehouse facility, for example, by inserting their key into the Validator station. With the ability to authorize keys on an as-needed basis, Validator eliminates problems associated with lost keys and unauthorized entry. The system eliminates key duplication and wrongful entry by someone using a key outside of an assigned work schedule.

www.videx.com

ZEBRA

Zebra Technologies' new XiIIIPlus family of label printers feature an enhanced main logic board to boost throughput and processing speed, plus additional storage for label formats, graphics and international fonts. The printer also offers 300 unique darkness settings.

The XiIIIPlus family has five printer models. Added memory, in the form of 16MB of SDRAM, enables companies to store and print complex bar codes, Asian fonts, multiple label formats and detailed graphics.

The printers are equipped with a service warning system, which displays printhead maintenance alert messages on the printer's LCD panel

and through e-mail-enabled devices using the ZebraLink Alert feature. The

printers also offer the ZebraNet Wireless Card Socket, which enables printers to be on line in any location.

www.xi.zebra.com

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... SEMICONDUCTORS
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**Fargo Electronics, Inc. Introduces The CardJet 410 At
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NEW ORLEANS--(BUSINESS WIRE)--April 23, 2002
Fargo Electronics, Inc. (Nasdaq:FRGO) today introduced the
Fargo
Professional Series CardJet(TM) 410 Printer/Encoder- the first
dedicated
plastic card personalization system that uses Fargo's new CardJet
Printing
Technology(TM) - at the CardTech/SecurTech Conference and Exhibition
here.
Fargo will be exhibiting four new printers, including the CardJet
410, at
Booth 1001 in the Ernest N. Morial Convention Center. Based in Eden
Prairie, Minnesota, Fargo card printer/encoders create personalized

plastic
identification cards complete with digital images and text,
lamination, and
electronically encoded information.

"With the introduction today of this innovative technology,
 Fargo is
changing the face of card printing," said Gary R. Holland, President
and
CEO of Fargo. "Inkjet printers are rugged, durable, and widely used.
Our
introduction of thermal inkjet printing for ID cards opens the door
to
thousands of companies and organizations, which previously could not
afford
a dedicated ID card printer/encoder.

"With a Manufacturer's Suggested Retail Price (MSRP) of
\$2,495.00,
the CardJet 410 is very competitive with old-fashioned 'cut and
paste'
analog photo-based ID badge systems, particularly when time, labor,
and
card costs are accounted for," Holland said. "Features such as
convenience,
ease of use, virtually no maintenance, cost of supplies, and the
professional appearance of the ID badges will make the CardJet 410 a
clear
winner with end users."

"The Fargo CardJet 410 Printer/Encoder uses the familiar 'open
cover, snap out, snap in' process to replace the SmartLoad(TM) Ink
Cartridges," said Kathleen Phillips, Fargo's Vice President -
Marketing.

"Loading the special CardJet cards is just as easy: the SmartLoad(TM)
Card

Cartridge is loaded from the top of the printer, then clicks into
place.

Both SmartLoad ink and card cartridges are designed for error-free,
one-way-only loading.

"A special radio frequency identification (**RFID**) **tag** on
each

SmartLoad ink **cartridge** and a "smart chip" on the base of the
SmartLoad

card **cartridge** communicate with the CardJet 410 CardJet
printer/encoder,

as well as the customer's personal computer. The tags and chip
automatically track card printing, and warn the operator when either
card

or ink supplies are low," Phillips notes. "If the ink or card
cartridges

are removed, the tags and chip each 'remember' the precise count and
resume

at that number when replaced in the printer."

Initially, the CardJet 410 will be offered with a SmartLoad
100-card

cartridge , a SmartLoad 900-card black ink **cartridge** , and a

SmartLoad

300-card color ink **cartridge** . No alignment or calibration of the ink

cartridges is necessary when the cartridges are replaced.

The CardJet 410 offers an optional magnetic-stripe (high-coercivity only) encoding unit, which can be factory installed or upgraded in the field by either a technical end user or Fargo Solution Provider (FSP).

"Our target market - companies, schools, government and other organizations that typically print smaller volumes of cards per year --

want card printers that are easy to learn, simple to operate, and require virtually no maintenance," said Phillips. "The CardJet 410 operator can change ink and card cartridges in a matter of seconds, then resume printing, easily and error-free."

As the world's leading innovator in card personalization systems, Fargo worked closely with Hewlett-Packard Company's (NYSE:HWP) Specialty Printing Systems (SPS) Operation, which is selling HP's thermal inkjet technology to Fargo on an OEM basis, and PPG Industries (NYSE:PPG), which developed the Teslin sheet-based cards used by the CardJet 410.

Fargo CardJet 410 Printer/Encoder Features

-- Fargo CardJet Printing Technology and an HP inkjet print engine ensure

virtually maintenance-free reliability.

-- Top-loading SmartLoad Card **Cartridge** eliminates hassles with 100 pre-loaded cards.

-- CardJet Printing Technology delivers full color, durable cards in as fast as

22 seconds.

-- 600 dpi for full-color images, razor-sharp text, and easy-to-scan barcodes.

-- Specially formulated CardJet ink bonds instantly and won't smear.

-- Snap in SmartLoad Ink Cartridges.

-- Over-the-edge printing creates a high-quality, professional appearance.

-- Abrasion-resistant non-glare CardJet Cards are ideally suited for

applications that require repetitive swiping such as access control, meal plans, or time cards.

-- Intuitive LED lights and on-screen status message signals when to change cards or ink.

-- Transparent access window allows for viewable printing and easy changing of CardJet consumables.

-- Optional magnetic stripe encoding station provides cards with functionality and security.

-- Hopper access door conveniently flips up when printer is not in use.

-- One year printer warranty

Print Mode	Speed(a)	Print Quality
Fast	22 Seconds	Good
Normal	40 Seconds	Very Good
Best	67 Seconds	Excellent

(a) Print speed will vary depending on the amount of color coverage within a card design. The above print speeds represent a full-color, full-bleed design; designs with less color coverage will print faster. Print speed indicates an approximate batch print speed and is measured from the time a card feeds into the printer to the time it ejects from the printer. Print speeds do not include encoding time or the time needed for

the PC to process the image. Process time is dependent on the size of the file, the CPU, amount of RAM and the amount of available resources at the time of the print.

Under the theme, "Securing the 21st Century: Technology for an Uncertain World," CardTech/SecurTech focuses on the marketing, business, and technical aspects of successfully deploying card, identification, and security technologies. The CTST Annual Conference and Exhibition draws over 8,500 attendees, with approximately 350 companies exhibiting.

About Fargo

Fargo Electronics, Inc. (Nasdaq:FRGO) is the world's leader in innovative technologies for desktop plastic card personalization systems.

Based in Eden Prairie, Minnesota, Fargo creates printing systems that personalize plastic identification cards, complete with digital images and

text, lamination, and electronically encoded information.

Personalized

identification cards provide physical, information and transaction security

for a wide variety of applications including retail stores, e-commerce,

government installations, schools, sports and recreation facilities, clubs

and associations, and correctional facilities. More than 60,000

Fargo

systems are currently installed throughout the U.S. and in over 100 other

countries. For more information, visit Fargo's Web site at <http://www.fargo.com>.

Forward-looking Statements

Statements made in this release concerning the company's expectations about future results or events are "forward-looking statements." Such statements are subject to the safe harbor created by the

Private Securities Reform Act of 1995, and are necessarily subject to risks

and uncertainties. Actual results may differ materially from those reflected in these forward-looking statements. These risks include: product

acceptance and customer demand for Fargo's card personalization systems and

proprietary supplies; actions taken and alternative products marketed by

Fargo's competitors; supplier relationships; domestic and international

regulations and standards; adverse economic and business conditions, including conditions resulting from the terrorist attack on the U.S.

on

September 11, 2001 and the resulting hostilities; and adverse changes in

the Company's business as a result of the announcement of the now terminated acquisition of the Company by Zebra Technologies Corporation. For more detail, see the Company's Annual Report on Form 10-K for the year ended Dec. 31, 2001.

About PPG

Pittsburgh-based PPG (NYSE:PPG) is a leading global supplier of specialty and industrial chemicals in addition to coatings, fiber glass and glass. With 2001 sales of \$8.2 billion, PPG has 120 manufacturing facilities and equity affiliates in 24 countries. Teslin(R) is a trademark of PPG Industries, Inc. For more information: <http://www.ppg.com> or <http://www.teslin.com>.

Note to editors: For a JPEG photo file of the CardJet 410, log on to the Fargo Media Room at http://www.fargo.com/Corporate_info/product_photos.asp, or e-mail your request to pr@fargo.com.

CardJet 410 Specifications

Print Method:	Thermal Inkjet

Resolution: Ink	600 dpi

Colors:	Up to 16.7 million

Cartridge Capacity:	SmartLoad Ink
Cartridges:	-- Full Color - 300
prints	-- Black - 900 prints
level	SmartLoad Ink Cartridges
reports	feature an exclusive ink
alerts	gauge that precisely
or	remaining prints and
	operator when ink is low
	out.

Print Speed: (a)	-- Fast print quality -

	22 seconds per card / 163 cards per hour -- Normal print quality
	40 seconds per card / 90 cards per hour -- Best print quality - 67 seconds per card / 53 cards per hour

Accepted Standard Card Sizes: (3.375" L 54mmW)	CR-80 CardJet Cards x 2.125" W / 85.6mmL x

Print Area: CardJet	Over-the-edge on CR-80 Cards

Accepted Card Thickness:	.030" (30 mil) / .762mm

Accepted Card Types:	FARGO CardJet Cards

Card Cartridge Capacity: Cartridges:	SmartLoad Card -- 100 pre-loaded CR-80 CardJet Cards SmartLoad Card
Cartridges make	card loading a snap and feature exclusive
technology	that tells you when to
install	a new card cartridge .

Output Hopper Card Capacity: .762mm)	50 cards (. 030" /

Memory:	2MB RAM

Software Drivers: XP	Windows(R) 98/ Me/ 2000/

Encoding Options:	High-Coercivity Magnetic

	Stripe Encoding Module (Field installable)

System Requirements: Windows Pentium(R) with 200MB	IBM-PC or compatible, 98/ Me/ 2000/ XP, class 133MHz computer 32MB of RAM or higher, free hard disk space or higher, USB 1.1

Interface:	USB 1.1

Operating Temperature: F / C	59 degrees to 95 degrees 15 degrees to 35 degrees

Humidity:	20-80% non-condensing

Dimensions: 14.0" D /	8.0" H x 18.0" W x 203mmH x 457mmW x 356mmD

Weight:	19.4 lbs. / 8.8 kg

Agency Listings: C2.2 (No. 60950 CE, ITS (EN FCC 1997	Safety: UL 1950, CSA 950- 95) and TuV- GS (EN A1- A4, A11) Emissions: FCC, CRC c1374, BSMI, 55022 Class B: 1995), Class B, EN 50082- 1:

Supply Voltage:	100-240 VAC, 1.0A

Supply Frequency:	50 Hz / 60 Hz

Warranty:-----

Printer - One year

(a) Print speed will vary depending on the amount of color coverage within a card design. The above print speeds represent a full-color, full-bleed design; designs with less color coverage will print faster. Print speed indicates an approximate batch print speed and is measured from the time a card feeds into the printer to the time it ejects from the printer. Print speeds do not include encoding time or the time needed for the PC to process the image. Process time is dependent on the size of the file, the CPU, amount of RAM and the amount of available resources at the time of the print.

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SIC CODES: 3577 (Computer peripheral equipment, not elsewhere classified)
NAICS CODES: 334119 (Other Computer Peripheral Equipment Manufacturing)

... President - Marketing. "Loading the special CardJet cards is just as easy: the SmartLoad(TM) Card **Cartridge** is loaded from the top of the printer, then clicks into place. Both SmartLoad ink...

...cartridges are designed for error-free, one-way-only loading.
"A special radio frequency identification (**RFID**) **tag** on
each
SmartLoad ink **cartridge** and a "smart chip" on the base of the
SmartLoad
card **cartridge** communicate with the CardJet 410 CardJet
printer/encoder,
as well as the customer's personal...

...in the printer."
Initially, the CardJet 410 will be offered with a SmartLoad
100-card
cartridge , a SmartLoad 900-card black ink **cartridge** , and a
SmartLoad
300-card color ink **cartridge** . No alignment or calibration of the
ink
cartridges is necessary when the cartridges are replaced...

...and an HP inkjet print engine ensure
virtually maintenance-free reliability.

-- Top-loading SmartLoad Card **Cartridge**
eliminates hassles with 100 pre-loaded
cards.

-- CardJet Printing Technology delivers full color, durable
cards...
Specifications

-	
Print Method:	Thermal Inkjet

Resolution: Ink	600 dpi

Colors:	Up to 16.7 million

Cartridge Capacity:	SmartLoad Ink
Cartridges:	-- Full Color - 300
prints	-- Black - 900 prints
	SmartLoad Ink Cartridges
	feature...
...Cards	

Accepted Card Thickness:	.030" (30 mil) / .762mm

Accepted Card Types:	FARGO CardJet Cards

Card Cartridge Capacity:	SmartLoad Card
Cartridges:	-- 100 pre-loaded CR-80 CardJet Cards SmartLoad Card
Cartridges make	
...	
...a snap and	feature exclusive
technology	that tells you when to
install	a new card cartridge .

Output Hopper Card Capacity:	50 cards (. 030" /
.762mm)	

Memory:	2MB RAM

Software Drivers:	Windows(R...

19/K,9/5 (Item 3 from file: 16)
 DIALOG(R)File 16:Gale Group PROMT(R)
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SCREEN PRINTING specializes in polyurethane domed decals and polycarbonate overlays, along with other types of decals 9001 certified and UL approved.

Adcraft Decals, Inc., Independence, OH
 Circle 247

LEDs AND DISPLAYS, OPTO-isolation products, and motion control products. Agilent Technologies, Santa Clara, CA

Circle 248

FASTENERS made of stainless steel, brass and bronze. Direct importer, manufacturer and distributor. ISO 9002 certified. Six

branch

locations throughout the U.S. Alloy Fasteners, Inc., Maryville, TN
Circle 249

METAL ROLL FORMED PARTS are custom manufactured, with plastic extrusions in single and multi durometer and stampings for structural, functional and decorative applications. Ameriform Manufacturing, Inc., Carrollton, KY

Circle 250

PLASTIC PRODUCTS for various applications. American Plastic Molding Corp., Scottsburg, IN

Circle 251

ELASTOMERIC SEALS manufactured and designed in a diverse range.

O-rings and custom seals in sizes from microminiature to macro are available. Apple Rubber Products, Lancaster, NY

Circle 252

PRECISION MACHINED PRODUCTS with capabilities that include single spindle and multi-spindle screw machines, hydromat rotary transfer machines, splining, thread rolling, centerless grinding, induction heat-treating, welding, and assembly. Ashley Ward, Inc., Mason, OH

Circle 253

ADVANCED SEMICONDUCTORS including logic, nonvolatile memory, mixed signal (radio frequency) integrated circuits and SiGe technologies. Atmel Corp., San Jose, CA

Circle 254

MEMBRANE SWITCH/NAMEPLATE LAMINATING and spacer adhesives, with enhanced performance. Complete line of double-coated and transfer adhesive tapes for vibration control, sound damping, gasketing, gap filling and EMI/RFI shielding. Pressure-sensitive adhesive tapes engineered for the appliance and electronics industry. Avery Dennison, Painesville, OH

Circle 255

MAGNET WIRE TEST INSTRUMENTS designed and manufactured in an extensive line, with technical support and in addition to working closely with NEMA, IEC and ASTM in formulating standards. AZ-Tech, Inc., Fort Wayne, IN

Circle 256

FLANGEFORM HIGH STRENGTH CAPTIVE FASTENERS are particularly suitable for thin gauge material and aluminum. Flangeform fasteners provide an alternative to clinch or welded fasteners and are available in both nuts and studs. BAS Components, Inc., Youngstown, OH

Circle 257

SPECIALY ENGINEERED COMPONENTS range from colded-headed items,

wireforms, nonmetallic, weld screws, and staking and clinch fasteners.

Special manufactured items to prints, packaging and sorting solutions for

automated assembly. Blue Chip Engineered Products, Cincinnati, OH
Circle 258

ELECTRICAL CONTACT ASSEMBLIES and precision metal stampings for the electrical, medical, and appliance industries. Special processes include

Burst disks, welded and staked assemblies and secondary operations. Brainin

Advance Industries, Attleboro, MA
Circle 259

PRODUCTION MACHINERY and packaging equipment Buckeye Machine Fabricators, Forest, OH

Circle 260

COMPOSITE MOLDING MATERIALS for high-heat, caustic and load-bearing applications Available in brilliant colors and high gloss for display in

major appliance and core electrical applications. Bulk Molding Compounds,

Inc., West Chicago, IL
Circle 261

CERAMIC COMPONENTS including wear, mechanical, electrical insulators and medical components. Glazing and metalizing available Materials include

94-99 percent alumina, TZP, titania, steatite, cordierite and machinable

lava. CeramTec North America, Laurens, SC
Circle 262

TELECOM TRANSFORMERS, linear PC mount, power transformers, coils, chokes and inductors. Desktop and wallmount adapters and switching power

supplies. CET Technology, Scottsburg, IN
Circle 263

POLYMERIC SYSTEMS AND GASKETING SOLUTIONS for appliance, electronic/electrical, industrial, telecommunications and other industries.

Products include adhesives, potting, sealants, injection molding and form-in-place gasketing. Chemque Inc., Rexdale, Ontario, Canada

Circle 264

INFRARED TOUCH CONTROLS for use with ceramic glass cooktops. Also

switches, sensors and electronic controls providing advanced design solutions Cherry Electrical Products, Pleasant Prairie, WI

Circle 265

RYTON provides high heat resistance, chemical resistance and excellent dimensional stability. Superior technical service and support,

lot-to-lot consistency and innovative new products. Chevron Phillips Chemical Co., Bartlesville, OK

Circle 266

SPECIALTY TOOL AND TEST EQUIPMENT CASES including a new overhead airline case which can be carried on any domestic airline. Chicago Case

Co., Powhatan, VA Circle 267

MINIATURE LAMP SOCKETS, harnesses, and value-added sub-assemblies for appliance and electronic applications. Christina Industries LLC, Chicago, IL

Circle 268

CUSTOM ELECTRONIC CONTROLS include sensors, indicators, controllers, and alarms for temperature, humidity, and press application. Control Products, Inc., Chanhassen, MN

Circle 269

PRECISION SPRINGS AND WIRE FORMS using round wire ranging in sizes from .006 through .250. Full-service operation under full SPC control and ISO certified. Cook Spring Company, Inc., Sarasota, FL

Circle 270

PRECISION DIE CUT PARTS and components are produced by combining PSA adhesives to foam, film, metal, and plastic Products include EMI shields, adhesive fasteners, gaskets, dampeners, and seals. DATA2 Inc., St Peters, MO

Circle 271

CUSTOM INJECTION AND BLOW MOLDING specializing in fast cycle times, thin wall injection molding, close tolerance, and large part extrusion blow molding. DeRoyal Plastics Group, Powell, TN

Circle 272

ILLUMINATED AND NON-ILLUMINATED rocker and push button, slide, rotary, and snap-action switches ALCI/GFCI and electronic assembly. Applications include electronic, appliance, power tools, and business equipment. Agency approvals include UL, CSA, VDE, KEMA, SEMKO, IMQ and more. DNA Group, Inc., Raleigh, NC

Circle 273

AC AND DC MOTORS for vacuum cleaners, household appliances, personal care, and hand tools. Domel c/o ISKRA USA, Inc., New York, NY

Circle 274

POWER LINE INTEGRATION allows remote troubleshooting of appliances The Plan(TM) (Power Line Area Network) can also provide early detection of defective appliances and remote control for other locations. Domosys Corp., Sainte-Foy, Quebec, Canada

Circle 275

ELECTRICAL INTERCONNECTION DESIGNS through custom collaborative efforts. Doram Manufacturing, Cincinnati, OH

Circle 276

PLASTIC NAMEPLATES, panels, trim, membrane switches, graphic overlays and urocal's. Complete in-house services to meet specific graphic requirements Douglas Corp., Eden Prairie, MN

Circle 277

INDUCTION HEATED COOKTOP features an electrical housing, structural support and oven control panel molded from engineering polymers. Other applications include motors, solenoids, gears and appliance systems. DuPont

Engineering Polymers, Wilmington, DE

Circle 278

VIRTUAL PROTOTYPING can be achieved through Rapid PLUS software e-Sim, Inc., Pasadena, CA

Circle 279

DURASTAR(R) POLYMERS are clear, tough, chemical resistant, and easy to dry for use in refrigerator or floor-care appliances Strong, light-weight THERMX polyesters are used in small appliances requiring heat resistance. Eastman Chemical Co., Kingsport, TN

Circle 280

AIRMOVERS provide low noise and high efficiency through a product line including tubeaxial/axial fans, centrifugal blowers, motorized impellers, and fan trays ranging from 5-10,000+cfm ISO 9001 certified. ebm

Industries, Inc., Farmington, CT

Circle 281

HIGH-ENERGY BONDED PERMANENT MAGNETS are available in both flexible and rigid form Electrodyne magnets are produced to customer specifications and are available in energy products ranging from 1.1 to 12.0 MGOe. The

Electrodyne Company, Inc., Batavia, OH

Circle 282

PLASTIC COMPONENTS include both injection molded and machined, and machined metal components. Elyria Plastic Products, Elyria, OH

Circle 283

SYSTEM SOLUTIONS for cooking, dishwasher, laundry, and refrigeration products through integration of technology, products, and manufacturing know-ledge. Emerson Appliance Solutions, St. Louis, MO

Circle 284

SCREEN PRINTING includes polycarbonate and polyester overlays. Capabilities include 4-color process, flexographic printing and

crystalline

domes. Empire Screen Printing, Onalaska, WI

Circle 285

PRESSURE SWITCHES, turbidity sensors, position sensors, flood switches, spray arm rotation sensors, mechanical latches, and solenoid

latches. emz Hanauer GmbH & Cu. KgaK, Nabburg, Germany

Circle 286

STEEL WIRE MANUFACTURING includes "mini-mill" wire drawing operations and extensive wire forming and fabricating capabilities, specializing in both long and short run wire forms and stampings.

Erisco

Industries, Inc., Erie, PA

Circle 287

METAL FORMING SIMULATION SOFTWARE PACKAGES allow a "virtual" viewing

of the stamping operation before any tools are cut providing enormous cost

savings. ESI North America, Shelby Township, M

Circle 288

ELECTRICAL CONNECTORS include insulated, custom and automotive, with

the appropriate application equipment. ETCO Incorporated, Bristol, RI

Circle 289

FAST APPLICATION OF PTFE TAPE to threaded fitting/valves in less

than two seconds vs. 30 seconds by hand. The tape is forced deep into the

tread root for a tighter, cleaner wrap, offering a better seal and virtually leak-proof wraps, for fitting ranging from 1/8-in. to 2-in. Federal Process Corp., Cleveland, OH

Circle 290

RELAYS for home appliances, consumer goods, telecommunications,

business machines, and industrial and commercial equipment include signal,

high-frequency, power, and solid state. Fujitsu Takamisawa America, Pasadena, CA

Circle 291

FOAMS AND TAPES are produced through advanced synthetic elastomer

and adhesive technology. ISO 9001 certified. Gaska Tape, Inc., Elkhart, IN

Circle 292

COMPUTER LABELING SYSTEM automatically prints and wraps computer

labels for identification. Dual tape **cartridge** system attaches plastic

clips to cables and hoses. Gettig Technologies, Spring Mills, PA

Circle 293

CUSTOM DURABLE PRODUCT LABELS are designed to withstand exposure to

extremes of service and environmental conditions. UL and CSA approved.

Gorilla Label, Scottsdale, AZ

Circle 294

PERMANENT MOLD ALUMINUM CASTINGS manufacturer offers a full service CNC machining and metal finishing center. Advanced premold designs utilizes the Gravi-Pour System that maximizes cost reduction. Gupta Permold Corp., Pittsburgh, PA

Circle 295

CUSTOM INJECTED MOLDED PLASTIC COMPONENTS for appliance applications. ISO 9002 certified and dedicated to World Class manufacturing. Harbor City Plastics, Abingdon, MD

Circle 296

HIGH TEMPERATURE WIRE AND CABLE to 100 (degrees) C manufactured for the appliance, steel, nuclear and other harsh environment markets. Harbour Industries, Shelburne, VT

Circle 297

BRAZING FILLER METALS, high-silver brazing allowys, silver solders, fluzes and brazing rings. J.W. Harris Co., Inc., Mason, OH

Circle 298

SWITCHES AND SENSORS for system-critical applications include turbidity and humidity sensors that can improve the effectiveness of home appliances. Honeywell Sensing and Control, Freeport, IL

Circle 299

WIRE HARNESS ASSEMBLIES that meet the stringent requirements of General Motors, Cadillac and Corvette models and Lockheed Martin manned space systems. Hood Cable Co., Hattiesburg, MS

Circle 300

WIRE CONNECTION DEVICES provide total system-solutions for high volume production environments. New OEM wire connectors include the WireNut(R) and no-twist In-Sure(TM); Automatic Connector Application Machine (ACAM) and Pre-Insulation Crimp Application Machine (PCAM) are proven to increase operator assembly rates while lowering overall costs. Ideal Industries, Inc., Sycamore, IL

Circle 301

STEEL TUBING with small diameter and low carbon for refrigeration and heating element applications. Capabilities also include cutting, custom bending, coating or painting, and finished condensers. Indiana Tube Corp., Evansville, IN

Circle 302

FOAMS AND TAPES are produced through advanced synthetic elastomer and adhesive technology. ISO 9001 certified. Gaska Tape, Inc.,

Elkhart, IN

Circle 303

COMMUTATORS, hair pins, slip rings. Industrias Kirkwood, S.A.

De

C.V., Touca, Mexico

Circle 304

INDEPENDENT TESTING AND EVALUATION SERVICES for materials, products

and systems that involve problem solving, failure analysis, troubleshooting, standard and nonroutine testing, in analytical, fire,

acoustic, thermal and physical/mechanical testing. Integrex Testing Systems, Granville, OH

Circle 305

WORLD'S LARGEST PRODUCTS AND COMMODITIES TESTING organization provides third party product safety testing and certification and performance verification. Intertek Testing Services, Boxborough, MA

Circle 306

APPLIANCE CONTROLS from a world-wide supplier to the appliance industry. Invensys Appliance Controls, Carol Stream, IL

Circle 307

SEALING AND GASKETING PRODUCTS feature silicone for high and low temperature applications. Engineering services are available. QS9000 and ISO 9001 registered. Jamak Fabrication, Weatherford, TX

Circle 308

PLASTIC PUSH-IN FITTINGS, SHUT-OFF VALVES AND TUBING for fast, reliable connections without the use of tools. John Guest USA, Pine Brook, NJ

Circle 309

METAL STAMPINGS AND LASER FABRICATIONS produced in prototype through high volume. Punch press to 300 ton, four slide, multislide and vertical forming equipment. ISO 9002/QS 9000 certified. KMC Stamping Co., Port Washington, WI

Circle 310

SPECIALIZED LUBRICANTS and self-lubricating plastics for power tools and home appliances. Products designed for roller bearings, sintered plain bearings, small gears and switches. Products that conform to both USDA and

FDQ regulations. Kluber Lubrication, N.A., Londonderry, NH

Circle 311

EMI/RFI FILTERS AND EMC SUPPRESSION PRODUCTS specializing in EMC solutions and providing EMC testing, fully approved X&Y capacitors, coils and chokes. LCR Electronics, Inc., Norristown, PA

Circle 312

THERMOPLASTIC INJECTION MOLDING for the appliance industry, 20 presses on premises range from 220 to 1,000 tons. Certified ISO 9002.

Lebanon Plastics, Inc., Lebanon, OH

Circle 313

LINEAR COMPRESSOR FOR HOUSEHOLD REFRIGERATORS is more efficient than any other type compressor by 30 percent. This product reduces the energy consumption of the refrigerator by 25 percent. LG Electronics, Seoul, Korea

Circle 314

ADHESIVES, SEALANTS, LUBRICANTS AND COATINGS supplier features a line of structural hot melts for the appliance industry. Loctite Corp., Rocky Hill, CT

Circle 315

SYNTHETIC GREASES AND OILS for the lubrication of plastic and metal gears and bearings, including sintered metal bearings. Lubrication Technology, Inc., Jackson, OH

Circle 316

CONNECTORS, INTERCONNECT SYSTEMS AND APPLICATION TOOLING serving customers world wide with innovative products covering the electronics and HVAC consumer goods markets. Lumbers, Inc., Midlothian, VA

Circle 317

UNIQUE THERMAL ENGINEERING CAPABILITY utilizes thermal imaging and diverse product line covering temperature from 459 (degrees) F to provide heat management solutions. Lydall Manning, Troy, NY

Circle 318

METAL FORMING AND POWDER METAL COMPONENT FABRICATION using magnetic forming technologies. MAGNEPRESS Products, LLC, Dayton, OH

Circle 319

CONVENIENCE OUTLETS, LIGHT SOCKETS, cable assemblies, wire harnesses, and contact sub-assemblies. ISO 9002 certified. Martinez Manufacturing, Inc., Cary, IL

Circle 320

PROTECTIVE PACKAGING used to preserve the corners, edges, and perimeter of products during transportation and storage. All products are manufactured using recycled materials and are recycleable. Manasha Corp., Danville, VA

Circle 321

METAL PROTOTYPE PARTS are produced by a photochemical machining process that provides rapid deliveries (including 24-hour capability) without expensive blanking dies. Microphoto, Inc., Roseville, MI

Circle 322

FASTENING, BONDING AND GRAPHIC MATERIALS include aluminum foil tapes, Bumpon(TM) Protective Products, 3M(TM) Adhesive Products, 3M(TM)

Dual Lock(TM) Reclosable Fasteners, and sound damping materials for improving programs, processes, and addressing the concerns of design teams

in the global appliance industry. 3M, St. Paul, MN

Circle 323

CUSTOM ENGINEERED A/C & D/C GEAR MOTORS, shaded pole, permanent split capacitor motors and gear motors, and heavy duty reversible induction wound motors and gear motors. Molon Motor & Coil Corp., Rolling Meadows, IL

Circle 324

CUSTOM MEMBRANE SWITCHES, elastomer keypads, flex circuits, electroluminescent panels, graphic overlays, product identification labels, and complete electronic assemblies providing comprehensive system solutions. Murfin/Interface Data Systems (IDS), Columbus, OH

Circle 325

PREFORMED DIE-CUT ADHESIVE PARTS for product assembly. Uniform thickness guaranteed at the bondline dramatically cuts part rejection for improper bonding. National Starch and Chemical-PreForm Adhesives, Billerica, MA

Circle 326

SPRINGS, STAMPING AND WIRE FORMS supplier is also a distributor of bearings, castings, forgings and roller chain. North Coast Spring & Wire Forms, Inc., Cleveland, OH

Circle 327

HOT SURFACE IGNITERS for the appliance and HVAC industries includes products such as the time-proven 120-volt CRYSTAR(R) igniter and the low wattage, superior strength family of Mini-igniters(TM). Norton/Saint-Gobain Igniter Products, Milford, NH

Circle 328

RETURNABLE AND REUSABLE PACKAGING for material handling purposes, including collapsible bulk containers, bins, totes, pallets, and protective dunnage custom-made from corrugated plastic. Numatech Industries, Puslinch, Ontario, Canada

Circle 329

SYNTHETIC LUBRICANTS designed specifically for plastic gearing, sintered metal bearing and electrical switch applications. Also damping greases and Uniflor(TM) product information. Nye Lubricants, Inc., Centerville, OH

Circle 330

WELD NUTS, WELD SCREWS, WELD PINS manufactured in low carbon

and 18-8 stainless inch and metric. Also leg levelers and adjustable screws. The Ohio Nut & Bolt Co., Berea, OH

Circle 331

RELAYS, SWITCHES, CARD READERS, optical switches, sensors, PLCs, operator interfaces. Leading manufacturer worldwide of industrial automation and communication products. Omron Electronics, Inc., Schaumburg, IL

Circle 332

PRODUCT SUPPORT DOCUMENTATION PROVIDER offers parts catalogs on CD-ROM. Services include writing, illustration and publishing technical documentation on paper, CD-ROM and the Web. O'Neil & Associates, Inc., Dayton, OH

Circle 333

DEEP-DRAWN METAL COMPONENTS manufactured with custom designs. Peterson Manufacturing Co., Sarasota, FL

Circle 334

CONTROL SOLUTIONS are designed to replace sealed and other high-cost controls and on/off and multiposition switching functions. Also position sensors and encoders. Piher International Corp., Libertyville, IL

Circle 335

PRECISION STAMPING AND MOLDINGS include automated insert molding with reel-to-reel capability. Single source responsibility. QS 9000 certified. Plainfield Companies, Plainfield, IL

Circle 336

POLYMER THICK FILM FLEXIBLE CIRCUIT SMT assemblies provided by virtually integrated manufacturing, from custom circuit design through final assembly. Applications include appliance front panels, telecommunications, **RFID tags**, medical devices, and computer peripherals. PolyFlex Circuit, Cranston, RI

Circle 337

CUSTOM THERMOPLASTIC INJECTION MOLDER specializes in insert, encapsulation, over-molding, molding over 250 engineering grade thermoplastic resins, tooling repair, and design assistance. Precision

Custom Products, Inc., Degraff, OH

Circle 338

PRECISION DIE CUT COMPONENTS include gaskets, EMI/RFI shielding, thermal management, and many other types of components. Special in-house capabilities include producing steel rule dies, custom laminated material, kitting, and individual component packaging. Presscut Industries, Carrollton, TX

Circle 339

UNISTRIP HIGH TEMPERATURE PRODUCTS that are easily cut and stripped

on automatic equipment. Sil-a-Blend products rated at 200 (degrees) C with voltages ranging from 600V to 25KV for range appliances, microwave, transformer and igniter applications. Radix Wire Co., Cleveland, OH
Circle 340

HIGH TEMPERATURE REFRACTORY CERAMIC FIBER vacuum-formed custom shapes for directing or containing heat in appliances, boilers, furnaces and water heaters. Also, gas fireplace logs and brick panels for fireplaces and stoves. Refractory Specialties, Inc., Sebring, OH
Circle 341

CUSTOM THERMOPLASTIC PROFILE EXTRUSIONS for the appliance industry. Complete design services including FEA, tool making and secondary fabrication. Primary products include gaskets, trim profiles and tubing. Rehau Inc., Leesburg, VA
Circle 342

CONTRACT MANUFACTURER OF METAL COMPONENTS and sub-assemblies for shape-critical, surface-critical and high-strength applications. Specializing in medium to high volume progressive die stamping, production machining, heat-treating, welding and other value-added applications. Res Manufacturing, Milwaukee, WI
Circle 343

LEG LEVELERS FOR THE APPLIANCE INDUSTRY include a new line of standard levelers, along with metal stamping and secondary capabilities. The Rockford Company, Rockford, IL
Circle 344

PRECISION MOLDED ELASTOMERS with in-house capabilities including compression molding, transfer molding, injection molding, rubber-for-metal bonding, die cutting sub-assembly, complete in-house engineering staff, design assistance, and product development. Rubber Group (a division of Shercon), Santa Fe Springs, CA
Circle 345

PRODUCTS DEVELOPED BY STRATEGIC PARTNERSHIPS and concurrent engineering initiatives with customers. RWC, Inc., Bay City, MI
Circle 346

SWITCHES AND SWITCH ASSEMBLIES including ultraminiature, sub-miniature, miniature snap-action, positive action, security, pushbutton, tocker, proximity and limit switches. SAIA - Burgess Electronics Inc., Buffalo Grove, IL
Circle 347

PRECISION WOVEN SCREENING for the appliance industry. Wide varieties of plastic and wire screening are available as roll goods or custom fabricated parts. Sefar America Inc., Depew, NY

Circle 348

SCREEN AND OFFSET PRINTING FOR PLASTIC DECORATION includes in-mold

and heat transfer decorating. Serves the appliance, telecommunications, medical, electronics, sports, outdoor and specialty markets. Serigraph,

Inc., West Bend, WI

Circle 349

SWITCHES, CONTROL AND VALUE-ADDED ASSEMBLIES serve NAFTA, OEM and distribution markets. Capabilities include molding and automatic and semiautomatic assembly equipment for rocker, pushbutton, and custom products. Rapid service for low volume specials and high volume standards.

Siber America, Inc., Gurnee, IL

Circle 350

GAS-FIRED IR BURNER SYSTEM servicing the appliance industry. Solaronics, Inc., Rochester, MI

Circle 351

PANEL MOUNT INDICATOR LIGHTS and panel mount LEDs in many types of lenses, colors and sizes. Custom solutions developed by in-house engineering team. Mec pushbutton switches are available with several different styles of caps and bezels in a variety of colors. Mitimec switches are sealed to IP67M specifications, and momentary lifetime is in excess of 10,000,000 actuations. Sorensen Lighted Controls (SoLiCo), Hartford, CT

Circle 352

CUSTOM DIE CUTTING, WATER-JET CUTTING, HER CUTTING AND FABRICATION specializing in the converting of non-metallics, adhesives, and thin gauge materials. ISO 9002 certified. SRP (Standard Rubber Products), Elk Grove Village, IL

Circle 353

STEEL AND WIRE SHELVING, baskets, and related components to the appliance industry, offering innovative design and new finishes. SSW Holding Company, Elizabethtown, KY

Circle 354

COST-EFFECTIVE FASTENERS are available in a full line including the staple t-nut, weld nuts, cage nuts, spring steel clips, custom fasteners and fastener automation. Stafast Products, Inc., Painesville, OH

Circle 355

FDM RAPID PROTOTYPING SYSTEMS AND GENISYS 3D PRINTERS create 3D models and prototypes from CAD drawings. FDM systems use a variety of materials, including ABS, which can be subjected to functional testing.

Stratasys, Inc., Eden Prairie, MN

Circle 356

CUSTOM AND STANDARD MOLDED AND STAMPED RUBBER PRODUCTS for OEM applications worldwide. Product engineering prototyping and capabilities for large and small production runs. Syntex Rubber Corp., Bridgeport, CT

Circle 357

HIGH-PERFORMANCE LABELS, including UL.CSA, thermal transfer, dot matrix, and laser; Lexan nameplates; labeling for harsh environments, rough surfaces, and lightly oiled surfaces; and die-cut components. Tailored Label Products, Menomonee Falls, WI

Circle 358

A/C PARTS AND COMPONENTS contained in aluminum coils for condensers and evaporators. Technology Consultants International, Montgomery, AL

Circle 359

FLAT, MULTIVOID EXTRUDED ALUMINUM TUBING used primarily for heat exchanger applications. Thermalex, Inc., Montgomery, AL

Circle 360

ENGINEERED RUBBER PRODUCTS are molded, extruded, die cut, and lathe cut in all elastomers including Timprene. Products include oven door seals, refrigerator compressor mounts, and value-added operations. Timco Rubber Products, Inc., Cleveland, OH

Circle 361

WORLD CLASS TRANSFORMERS and fine wire round coils are manufactured to OEM specifications, with fully automated production providing consistent quality, 100 percent testing and SPC data. TransERA Electronics, Inc., Waterloo, Ontario, Canada

Circle 362

FIRE SHIELD OEM POWER CORDS provide cord-fire and ground fault protection and can be expanded with sensors to protect against open flames and a wide range of other hazards. TRC, Clearwater, FL

Circle 363

APPLIANCE CONTROLS include electromechanical and electronic time, temperature, pressure and combustion, plus switched reluctance motors and drives. Space and water heating controls, commercial cooking equipment controls and closed loop variable air volume controls are also available.

Tridelta Industries, Inc., Mentor, OH

Circle 364

MOTORS COMPONENTS AND SHAFTS, commutators, magnets, and

armatures.

Tuson Corp., Vernon Hills, IL

Circle 365

ELECTRICAL CONNECTORS, RELAYS, AND APPLICATION TOOLING

available

from two brands. Tyco Electronics Corp., Inc., Harrisburg, PA

Circle 366

TIGHT-TOLERANCE FUNCTIONALLY COMPLEX COMPONENTS are
manufactured for

OEMs around the world. Engineers work closely with clients to develop
specialized processes. UFE Inc., Stillwater, MN

Circle 367

ALUMINUM AND STAINLESS STEEL GAS SUPPLY TUBES with fittings,
gas

manifolds and sub-assemblies. Universal Tubular Systems, Inc.,
Manfield, OH

Circle 368

PRECISION ENGINEERED WIRE-FORM RINGS use the natural
elasticity of
metals to securely hold parts, compensate for different materials,
and
transmit and limit torque overload. USA Tolerance Rings, West
Trenton, NJ

Circle 369

HIGH R VALUE INSULATION PRODUCTS reduce wall thickness and
increase
efficiency in appliances. VacuPanel, Inc., Xenia, OH

Circle 370

PRECISION INJECTION MOLDING AND ASSEMBLY from engineering and
commodity resins. MAGSET AE brand PMMA molded magnet carriers for
small
motors. QS 9000/ ISO 9002 registered. Webster Plastics, Fairport, NY

Circle 371

PROPRIETARY SCREWS AND FASTENERS for the appliance industry,
with
specialty screws for problem solving applications. Whitesell Corp.,
Muscle
Shoals, AL

Circle 372

JUST-IN-TIME PRODUCT DOCUMENTATION SOLUTION delivers a
flexible
manufacturing capability for producing user manuals, enabling shorter
lead
times and small batch sizes cost-effectively. Xerox Corp., Rochester,
NY

Circle 373

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PUBLISHER NAME: Business News Publishing Co.

COMPANY NAMES: *Precision Custom Products Inc.; Adcraft Decals Inc.;
Agilent Technologies Inc.; American Plastic Molding Corp.; Apple
Rubber

Products Inc.; Ashley Ward Inc.; Atmel Corp.; Avery Dennison Corp.
Marking and Promotional Films Div.; AZ Technology; Brainin Advance
Industries; Bulk Molding Compounds Inc.; CeramTec North America

Electronic Applications Inc.; Cherry Electrical Products Corp.;
Chevron
Phillips Chemical; Chicago Case Co.; Control Products Inc.; DeRoyal
Industries Inc.; DNA Group Inc.; Domosys Corp.; Douglas Consulting
Group;
DuPont Engineering Polymers.; e-Sim Ltd. Embedded Systems Div.;
Eastman
Chemical Co.; ebm Industries Inc.; Electrodyne Company Inc.;
Emerson
Appliance Solutions; Empire Screen Printing
EVENT NAMES: *330 (Product information)
GEOGRAPHIC NAMES: *1USA (United States); 4EUGE (Germany)
PRODUCT NAMES: *3825000 (Test & Measuring Equip); 3674100
(Integrated
& Hybrid Circuits); 2821000 (Plastic Materials); 3674900
(Semiconductors & Parts NEC); 3679300 (Switches & Relays);
7372431
(CAD/CAM/CIM/CAE Software)
INDUSTRY NAMES: BUSN (Any type of business); ELEC (Electronics);
ENG (Engineering and Manufacturing)
SIC CODES: 3825 (Instruments to measure electricity); 3674 (Semiconductors and related devices); 2821 (Plastics materials and resins); 3600 (ELECTRONIC & OTHER ELECTRIC EQUIPMENT); 7372 (Prepackaged software)
NAICS CODES: 334515 (Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals); 334413 (Semiconductor and Related Device Manufacturing); 325211 (Plastics Material and Resin Manufacturing); 335313 (Switchgear and Switchboard Apparatus Manufacturing); 51121 (Software Publishers)
TICKER SYMBOLS: AAPL; ATML; AVY; EMN
SPECIAL FEATURES: LOB; COMPANY

... Circle 292
COMPUTER LABELING SYSTEM automatically prints and wraps computer labels for identification. Dual tape **cartridge** system attaches plastic clips to cables and hoses. Gettig Technologies, Spring Mills, PA
Circle 293...integrated manufacturing, from custom circuit design through final assembly. Applications include appliance front panels, telecommunications, **RFID tags**, medical devices, and computer peripherals. PolyFlex Circuit, Cranston, RI
Circle 337
CUSTOM THERMOPLASTIC INJECTION MOLDER...

19/K,9/6 (Item 4 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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08083756 Supplier Number: 67453258 (THIS IS THE FULLTEXT)
Texas Instruments Announces Tag-it(TM) Multi-Protocol Transceiver IC for

RFID Smart Label Solutions.

PR Newswire, pNA

Nov 15, 2000

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 566

TEXT:

DALLAS, Nov. 15 /PRNewswire/ --

Texas Instruments Radio Frequency Identification (**RFID**)
Systems
today announced its new **Tag -it(TM)** Multi- Protocol Transceiver IC
which
makes it easier and more cost-effective to build smart label readers
for a
broad range of 13.56 MHz RFID applications. TI's Multi-Protocol
Transceiver IC combines RF communication and signal detection
capabilities
into a single chip design and is compatible with new open, global
standards
ISO 15693 and ISO 14443-2 for vicinity and proximity applications.

The Tag-it Multi-Protocol Transceiver IC is a building block
of RFID
functionality for OEM product design engineers and systems
integrators
developing smart label readers for personnel access control, product
authentication, ticketing, library management and supply chain
management
applications. The Tag-it Transceiver IC supports multiple 13.56MHz
proximity and vicinity protocols including Texas Instruments' Tag-it
smart
labels, making it possible to develop a single RFID reader design
that
reads smart labels from multiple sources.

"Anyone considering smart labels in an open system would be
more
likely to chose products based upon standards rather than proprietary
technology," said Tres Wiley, Texas Instruments marketing manager for
smart
labels. "This offers opportunities for both third party providers
and end
users, as a single **RFID** reader can support **tags** and cards from
different suppliers and be compliant with different standards and
technologies at 13.56MHz."

With its small size and low power consumption, engineers can
seamlessly integrate the new Transceiver IC into RFID readers used in
portable, handheld as well as fixed applications. The Transceiver
ICs

small size enables RFID to be more easily embedded into devices with small footprints such as a copier, which uses RFID technology to authenticate a brand name printer **cartridge**. No large on-board power supplies are required, and the Transceiver IC's low power design enables extended reader battery life in portable RFID applications. An RFID smart reader containing the TI Multi-Protocol Transceiver IC can also be easily integrated into traditional barcode portable terminals and printers. The new design of TI's Multi-Protocol Transceiver IC reduces RFID reader product development time, parts count and PWB space. Only a few additional passive components are needed to develop a complete 13.56 MHz **RFID** smart label reader.

The **Tag** -it Multi-Protocol Transceiver IC will be available in Q2 2001.

Texas Instruments Incorporated (NYSE: TXN) is a global semiconductor company and the world's leading designer and supplier of digital signal processing and analog technologies, the engines driving the digitalization of electronics. Headquartered in Dallas, Texas, the company's products also include materials and controls, educational and productivity solutions, and digital imaging. The company has manufacturing or sales operations in more than 25 countries.

Texas Instruments Radio Frequency Identification (RFID) Systems is a leading developer and manufacturer of field-proven (RFID) solutions used in a broad range of applications worldwide. TI became the first multi-national semiconductor company to market RFID Systems with the introduction of TIRIS (Texas Instruments Registration and Identification System) in 1991. For more information call 1-800-785-7366 or visit the TI RFID Web site at www.tiris.com.

Media Contacts:

Susy d'Hont
Texas Instruments
(972) 575-2451
sdhont@ti.com

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Bridgeman Communications
(617) 742-7270
kim@bridgeman.com

SOURCE

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COMPANY NAMES: *Texas Instruments Inc.

PRODUCT NAMES: *7372700 (Contract Software & Services)
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SIC CODES: 7373 (Computer integrated systems design)
NAICS CODES: 5415 (Computer Systems Design and Related Services)
TICKER SYMBOLS: TXN
SPECIAL FEATURES: COMPANY

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in Q2
2001.

Texas Instruments Incorporated (NYSE...

19/K,9/7 (Item 5 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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07779546 Supplier Number: 65023962 (THIS IS THE FULLTEXT)

Keeping Up With Your ID Card Printer.

Fabsik, Sharon

Security, v37, n8, p67

August 1, 2000

ISSN: 0890-8826

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 1098

TEXT:

As ID cards become more important, so does the use of an ID card
printer.

The use and care of the printer is vital to keep tenants and visitors
badged and identified, especially for companies with high security.

Printer

maintenance is critical.

A common thought would be that keeping up the maintenance on an ID card printer would be fairly easy, but there are steps needed to keep a printer running smoothly.

Education

Education is key to running an ID card printer. Printers come with manuals and guidelines to instruct operators of how to use the printer properly.

"What we have tried to do is have documentation and methods established for basic operators," says Richard Hodgson, Direct of Customer Support, Eltron Card Printer Products, Camarillo, Calif. "We tried to make these operations simple."

Many printer manufacturers and distributors offer services to help printer operators. On-line help and 800 numbers are also available to answer operators' questions.

Unfortunately, a common malfunction is "customer misuse," Hodgson says. "We take great care to educate our customers."

Be Clean

"A clean, cool, dirt-free environment is absolutely critical," says Jerry Robinson, President ABC Security Corp., Northbrook, Ill. "A guard station isn't the best place to keep a card printer. Avoid sudden changes in temperature. Locate the printer in a room that has no windows so the temperature can be maintained."

Robinson suggests that operators put their printers in a telephone or computer room because they are 24-hour controlled. Temperature can effect the printer. Plus, if there is a camera with the printer, keeping them in a controlled room will help the consistency in the quality of the photos. No other software will be needed to control the lighting in the photo.

"Replacing the cleaning **cartridge** when the printer prompts you, is a good maintenance practice," Hodgson says.

Using clean, fresh cards will keep the ID card printer in good condition.

"Using proper materials, keeping the cards clean and following instructions is proper care for the printer," Hodgson says.

Warranties

ID card printers come with warranties, or the manufacturer has them available.

"We offer a one year warranty and a customer can buy coverage after the warranty runs out," Hodgson says. "We have a number of different service programs."

The manufacturer's warranty normally provides for repair or replacement. It will normally be sent back to the manufacturer's repair center, but on-site repair programs are available. Some companies have warranty coverage which includes use of a "loner" printer while the customer unit is being repaired.

A common failure is the color ribbon becomes jammed and the printer can become jammed just with the oils from the operator's finger. The operator might fix the problem but it "depends on the nature of the problem," says Robinson. "There are people you can call."

With all the new technology in the security industry, replacing a printer is sometimes a factor.

"The average life span of a printer is five years," Robinson says.

"I'm not saying that they can't be rebuilt, but there will be something newer and greater in five years."

For free Information

ABC Security Corp Circle 301

Eltron Circle 302

other selected sources

Casi-Rusco Circle 307

DataCard Circle 308

Fargo Electronics Circle 309

G & A Imaging Circle 310

I.D.USA Photo ID Circle 311

Identatronics Circle 312

IDenticard Circle 313

Imaging Technology Circle 314

J.A.M. Plastics Circle 315

Kodak Digital Science Circle 316

Lenel Systems International Circle 317

Loronix Information Systems Circle 318

PICS Photo Identification Circle 319

Polaroid CorpCircle 320

Sony Electronics Circle 321

Ultra Electronics Circle 322

Zebra Technologies Circle 323

or visit securitymagazine.com/subsec.htm

INSIDER NEWS

MIKOH and Texas Instruments Incorporate Technologies

MIKOH Corporation, McLean, VA, announces it will incorporate

the

Tag -it frequency identification (**RFID**) smart label inlays radio from

Texas Instrument, Dallas, TX, into their line of label and seal constructs.

These labels and seal constructs are used for authentication and

tamper-indication in high-security applications. Texas Instruments' RFID technology brings advanced data storage and data security capabilities to MIKOH's product offerings. Government and commercial customers use this advanced technology of data storage and security worldwide.

Tag-it smart label inlays are an easy-to-integrate, cost-effective and consumable RFID solution. Consisting of an integrated circuit, an antenna and requiring no batteries, Tag-it is paper-thin, re-programmable, flexible and capable of being read simultaneously by fixed-position readers and handheld scanners. The programmable many features of Tag-it allows application-specific information.

INSIDER NEWS

Visionics Corp Adopted by GSA's Smart Access ID Program
Visionics Corporation, Jersey City, NJ, announces that, through several contract awards to partner system integrators from the General Services Administration, its FaceIt technology is well-positioned to be adopted within the GSA's federal government-wide Smart Access Common ID program. Technology requirements for the smart card include an electronically generated photograph for visual identification, a biometric reference template for use in logical and physical access control to be stored in the chip and digital certificates for use in electronic transactions.

"FaceIt is an enabling technology with mass appeal that has been adopted already by many Federal agencies for a range of applications and pilot programs," said Joseph J. Atick, president and CEO of Visionics Corporation. "Our portfolio of products includes OEM level software modules as well as off-the-shelf finished solutions available through our Partner Network. We are pleased to provide core biometric technology that meets the requirements of the GSA Smart Access Common ID Card project," Atick added.

Motorola and Bopack Join to Develop "Smart Labels"

Motorola, Inc., Schaumburg, Ill. and Bopack Systems, Wommelgem, Belgium signed a Memorandum of Understanding (MOU) to jointly develop and market "smart label" solutions for the next generation of automatic identification. Using Motorola's new BiStatix radio frequency identification (RFID) technology, Bopack will produce labels and tags

that
serve as information carriers. The new paper-based "smart labels"
will
contain information stored in small computer chips that can be read
and
modified through a wireless interface, making them an ideal tool for
the
tracking and efficient routing of materials.

"Motorola decided to join forces with Bopack Systems because
of its
reputation as a label printer-converter and provider of total
logistics
solutions," said Grant Milner, director of BiStatix business
operations,
for the Motorola Worldwide Smartcard Solutions Division. "Together
with
Bopack, we will develop new uses for BiStatix-based smart labels and
tags.
The technology enables inanimate objects to "talk to" distribution,
handling, and storage systems, unlocking tremendous opportunities to
improve supply-chain communications processes."

In industries like pharmaceutical, they can provide virtually
flawless tracking and tracing on high value and high security goods.
With
less manual handling, diverted shipments and theft can be avoided.

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PUBLISHER NAME: Cahners Publishing Company

INDUSTRY NAMES: BUSN (Any type of business); GOVT (Government and
Law)

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Tag -it frequency identification (**RFID**) smart label inlays radio
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19/K,9/8 (Item 6 from file: 16)

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05683324 Supplier Number: 50293143 (THIS IS THE FULLTEXT)

Sensormatic security systems advance

Chain Drug Review, v20, n11, p194

June 29, 1998

ISSN: 0164-9914

Language: English Record Type: Fulltext

Article Type: Article

Document Type: Magazine/Journal; Tabloid; Trade

Word Count: 1424

TEXT:

BOCA RATON, Fla.--A series of landmark partnerships has enabled Sensormatic

Electronics Corp., the industry's largest supplier of integrated electronic

security solutions, to solidify a leading position across market sectors

around the world, executives at the company say.

In the chain drug arena, such noteworthy retailers as Brooks Pharmacy;

Canadian retailers Jean Coutu Group, Essaim Group and Uniprix; Boots The

Chemist in the United Kingdom; Watson's in Asia and dm-drogerie markt in

Germany have recently selected the supplier's UltraMax

acoustomagnetic

technology for electronic article surveillance (EAS) and source tagging.

Moreover, the drug chain with the most outlets in the United States,

CVS Corp., is in the process of converting all its stores to UltraMax technology to take advantage of its comprehensive source tagging capabilities.

Market leaders from all sectors continue to select Sensormatic for

source tagging and are taking the process to new heights, executives say.

Ace Hardware Inc., AutoZone, Furr's, Giant Food Inc., Hills Stores Co.,

Musicland Group, Printemps Inc., Sears Hardware and Trans World Entertainment are a few examples of the prominent companies newly committed

to acoustomagnetic source-tagging programs.

"At the present time 122 retailers around the world have opted for

source tagging with Sensormatic, more than three times as many as our nearest competitor," notes Joe Ryan, the company's vice president of global

source tagging.

Through Sensormatic's proactive approach, he says, merchants are able

to receive source-tagged merchandise to keep up with the pace of ever-changing consumer trends. Numerous examples exist of products that are

boosting sales in the chain drug industry while not losing ground to theft

because of source tagging.

Thanks to consumer interest, medical research and the whole-health

movement, nutrition-oriented products are more popular than ever and

offer
tremendous sales potential, according to Ryan. Sensormatic works with such
leading nutritional supplement manufacturers as Rexall Sundown to source-tag products when they are introduced to the marketplace, enabling
retailers to openly promote popular merchandise without fear of theft.

Home diagnostics is another area experiencing tremendous sales growth
due to an aging population and consumers' desire for self-medication. Sensormatic has solid source-tagging programs in place with
Boehringer
Mannheim, Bristol-Myers Squibb, Lifescan and other top home diagnostics
providers.

Assisted self-service is gaining popularity in drug, discount, grocery
and department stores due to customer preference and opportunities for
increased sales, Ryan says. Sensormatic's partnership with LIR-USA, a major
cosmetics packaging supplier, has resulted in a process to source-tag even
the smallest beauty products.

For instance, LIR-USA places a tiny UltraMax label behind the mirror
of a compact, providing theft protection even in the absence of secondary
packaging. That breakthrough solution for cosmetics manufacturers is said
to be possible only with UltraMax because of its superior performance in
close proximity to metal and foil.

As the Food and Drug Administration (FDA) continues to switch products
from prescription to over-the-counter status, Sensormatic's relationships
with such nonprescription drug makers as Bayer Corp., McNeil Consumer Products Co. and Pharmacia & Upjohn Inc. are paying off, according to Ryan.
Retailers and manufacturers alike are cashing in on that and other popular
trends thanks to acoustomagnetic source tagging, which is said to protect
the broadest range of products, even those packaged in foil blister packs.

On the supplier side a number of world-class consumer goods manufacturers are source-tagging with acoustomagnetic technology.
Retailers
have requested tagging support from such companies as Schering-Plough Corp., Smith Kline Beecham PLC and American Home Products Corp.'s Whitehall-Robins Healthcare.

Through Sensormatic's far-reaching programs to support such efforts,

those firms and other suppliers in ever-increasing numbers are joining the effort and providing retailers with pretagged merchandise, Ryan notes.

Currently, 1,700 suppliers around the globe source-tag with Sensormatic technologies, more than any other EAS supplier.

"Manufacturers consistently prefer UltraMax for source tagging," he says. "Sensormatic offers suppliers the most flexibility with the widest array of label formats, including sheet, roll, fanfold, capsule, **cartridge** and single."

The company's capsule label is described as the only label of its kind in the EAS industry. A drop-in acoustomagnetic label hermetically sealed in a plastic pouch, it is FDA-approved for contact with vitamins and other O-T-Cs. A number of manufacturers insert capsule labels directly inside bottles of nonprescription health care products to protect them without secondary packaging. The drop-in tag is compatible with the aluminum safety seals typically used on O-T-Cs, resulting in a product that is both tamper-proof and protected from theft.

To address the needs of manufacturers for alternative sources of supply, Sensormatic, like many companies in other industries, has made its label technology available through licensing. Avery Dennison and Wallace Computer Services are the first companies licensed to provide suppliers with the UltraMax label. Later this year Wallace will complete its equipment installation and begin manufacturing acoustomagnetic labels for direct sale.

Ryan notes that consumer goods makers welcome alternate channels of label supply and anticipate the increased innovation and availability that have resulted from licensing in other fields.

Another facet of Sensormatic's leadership through partnership building is the addition of value-added resellers (VAR). Such companies as B&G Plastics, Mainetti, Norprint, Paxar and others are incorporating UltraMax labels into all types of fabric, paper and plastic merchandise identification tags, which are now appearing on clothing and accessories in stores around the world.

Coupled with retailer and manufacturer preferences, Sensormatic technologies have been endorsed by 11 trade associations around the

world
in the apparel, fragrance, hardware, hypermarket/supermarket and
music
sectors. That is nearly four times the number of recommendations for
competitive technologies, Ryan says.

"Successful companies do not operate in a vacuum," he remarks.

"By
opening our technologies to the global marketplace through licensees,
VARs,
trade relationships and other strategic alliances, we are approaching
the
point of becoming the standard in all classes of trade."

The show of support for UltraMax is a reflection of its
benefits, he
adds. The acoustomagnetic label size is the smallest used for
widespread
source tagging in the industry. And the ability to provide superior
performance in the presence of metal and foil allows UltraMax
protection
for the broadest range of products.

"Drug chains are realizing the advantages of UltraMax for source
tagging," says Ryan. "Tiny UltraMax labels are easily integrated
inside the
smallest products or packages and do not interfere with exterior
graphics
even in the few instances when they are externally applied."

UltraMax is friendly for customers, staff and vendors, he notes.
It is
customer-friendly by being free of embarrassing false alarms,
allowing
wide-entrance passage and enabling open, easy access to all types of
merchandise. The technology is staff-friendly through superior
deactivation
and detection performance. And it is user-friendly because of its
easy
adaptability to high-speed, static-laden manufacturing environments.

In today's retail environment, though, advanced technology is
not
enough. "Retailers are looking for direct turnkey solutions that
combine
sales, training and support," Ryan comments. "We have the edge in
this area
with 57 employees dedicated full-time to ensuring successful
implementation
and long-term support for our source-tagging partners."

Collaboration is also a critical requirement for providing
viable
radio frequency identification (RFID) solutions for the marketplace.
Sensormatic's strategic partnerships and VAR agreements are allowing
retailers and manufacturers to experience the benefits of intelligent
EAS
much sooner than originally expected, according to Ryan. He says the
company has blazed the trail with its strategic partnerships with
Micron,

Motorola and Texas Instruments Inc. to develop RFID products.

Recently Sensormatic became a VAR for Gemplus, the world's leading provider of magnetic stripe and smart card technology. Sensormatic is integrating Gemplus tags, readers and couplers into EAS systems to provide retailers and manufacturers with a low-cost smart source-tagging solution.

Additionally, Norprint, a British supplier of paper tag and label products, has perfected a combination acoustomagnetic EAS and RFID hangtag.

Again striving to be ahead of the curve, Sensormatic is testing **RFID**

tags in retail environments, according to Ryan. For example, the company has designed a hybrid tag that combines a traditional reusable hard tag with the intelligence of an **RFID** chip. Patents are pending on that innovative product with retail and manufacturer testing taking place this summer.

In today's highly competitive world technology plays a critical role and can separate the winners from the losers, Ryan says. But to achieve a sustainable competitive advantage, companies with the vision to open their technologies and foster meaningful partnerships will thrive. Sensormatic has the relationships in place and the preferred technology needed to deliver optimal benefits from acousto-magnetic EAS and REID, he notes.

Sensormatic Electronics Corp.

951 Yamato Rd.

Boca Raton, Fla. 33431

Key contact: Joe Ryan

Vice president of global source tagging

Phone: (561) 989-7000 Fax: (561) 989-7064

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GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3662500 (Electronic Search & Detect Eqp)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and

Cosmetics); RETL (Retailing)

NAICS CODES: 334511 (Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing)

SPECIAL FEATURES: COMPANY

ADVERTISING CODES: 55 Company Planning/Goals

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19/K,9/9 (Item 7 from file: 16)

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04852885 Supplier Number: 47138480 (THIS IS THE FULLTEXT)

Sensormatic holds financial analyst meeting.

Business Wire, p02191139

Feb 19, 1997

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 1763

TEXT:

BOCA RATON, Fla.--(BUSINESS WIRE)--Feb. 19, 1997--Sensormatic Electronics

Corporation (NYSE:SRM) President and CEO Bob Vanourek yesterday delivered

the keynote speech at a two-day Investor Symposium, framing his remarks

around the theme "Momentum is Building." The meeting was held to provide a

progress report on Sensormatic's three-year process re-engineering program,

which is currently starting its second year; to showcase its new products

and to enhance the understanding of the Company among members of the investment community.

Vanourek began the meeting by reviewing certain perceptions versus

realities in the marketplace today with regard to Sensormatic's business.

He continued by outlining specific challenges Sensormatic faces such as

price competition, short-term product shortages and negative publicity. At

the same time, he outlined the Company's various strengths, including the

broad retail use of Sensormatic products, its superior technology portfolio, global operations and the competencies of its sales and

professional staff worldwide.

Vanourek next reiterated the three priorities he established in early 1996, emphasizing the progress Sensormatic has made toward cost and asset

control, investments in processes and systems, and quality growth.

"Sensormatic seeks to be 'the' electronic security company," Vanourek

told the group of more than 65 analysts and investors. "We intend to achieve this through vigorous growth in security systems as well as further

expansion in the areas of sensing and tracking and by working toward a goal

of nothing less than 100 percent customer satisfaction. These efforts will

be supported by high performance teams." He also shared his financial objectives for Sensormatic: an annualized revenue growth rate of at least

15 percent, average operating margins of 15 percent, 15 percent average

return on shareholders' equity and 20 percent annualized increases in earnings per share.

Vanourek noted that achievement of these objectives will be dependent

upon, among other things, continued progress in the company's re-engineering of processes and systems and cost control programs, continued development and customer acceptance of the company's products,

and expansion of source tagging with the company's UltraMax(r) and electromagnetic technologies.

Following Vanourek's presentation, executives from each business unit

discussed their unit's progress on the company's three priorities.

The North American Retail unit's head, Jerry Kendall, noted that his

division's operating expenses have remained flat in dollar terms while

sales have increased 35 percent since the new priorities were set forth in

the March 1996 quarter. In addition, the group has seen a marked reduction

in accounts receivable and days sales outstanding. Over the last six months, days sales outstanding have dropped 35 percent. This reduction

coincides with the implementation of new standards for order documentation,

processing and collection. Kendall also highlighted Sensormatic's estimated

66 percent share of the penetrated market of North American retailers, and

the unit's plans for revenue growth from both sales and service, drawing

parallels between these plans and the initiatives of certain other higher-technology companies.

Joe Ryan, head of Sensormatic's Global Source Tagging unit, then

gave
a progress report. Currently, 1,100 vendors and nearly 40 retailers
are
actively pursuing source tagging using Sensormatic's electronic
article
surveillance (EAS) technologies, compared to 155 vendors and less
than 10
retailers at the end of fiscal 1994. Ryan reviewed the group's
activities
with source tagging users groups and with trade associations in the
areas
of retailing, packaging and electronic commerce. He pointed out that
users
are increasingly focusing upon source tagging as a tool to increase
sales
through open merchandising, rather than simply as a means to prevent
theft.
Sensormatic will be demonstrating its new high-speed label
application
formats, including its **cartridge** label, in its Universal Product
Protection (UPP(r)) laboratory on Wednesday.

European Retail, Sensormatic's largest business unit, was
covered by
Bob Vanourek. In Europe, Sensormatic's sales are nearly three times
the
size of its nearest EAS competitor, and more than 50 percent larger
than
its next two competitors combined. Sensormatic also holds an
estimated
two-thirds of the CCTV installed base among retailers. Vanourek noted
that
since the adoption of Sensormatic's three priorities, operating
expense
ratios in the European Retail unit have improved, particularly in the
United Kingdom. He also noted that in Europe half of the installed
EAS
systems are four years old or older, which presents significant
opportunity
for quality growth through upgrades and cross-selling.

Revenue in the International Retail unit has grown seven times
since
its inception seven years ago, noted Ron Premuroso, group vice
president.
The International Retail unit includes operations in 50 countries in
the
Latin American and Asia/Pacific regions through either direct sales
offices
or through indigenous distributors. One thousand people are involved
in the
combined direct and indirect sales efforts. Premuroso listed as
primary
growth drivers for International Retail the strong GDP growth in his
territories, the increasing activities there of major global
retailers, and
acquisitions of key distributors.

In the Worldwide Commercial/Industrial (C/I) division, Terry Price, division president, described the opportunities presented by a rapidly growing, highly fragmented market for CCTV and access control. In those segments of the CCTV and access control market where Sensormatic currently does business, it is the leader. Sensormatic rose to that leadership position since forming its C/I unit in the early 1990s. Price also identified the market for electronic asset protection, sensing and tracking as an opportunity for future expansion. Following its growth to \$275 million in revenues in fiscal 1996, the C/I division has seen a downturn in its growth rate. Price identified several causes of the recent downturn, including product competitiveness, poor returns from acquired businesses in Europe and channel conflict. He also outlined plans to return to growth and maintain the company's leadership position. These include seven product introductions planned for 1997, a restructuring in Europe already underway, and a channel harmonization program.

A progress report on cost control was delivered by the head of Sensormatic's supply chain unit, Jack Daut. Daut noted that Sensormatic programs currently in place are anticipated to result in cost of goods savings of more than \$50 million annually. This estimate is predicated upon the achievement of forecasted production volumes, stable rates of inflation, and continued availability from key suppliers. They are expected to allow Sensormatic to respond more aggressively to the dynamic pricing environment it faces in selected market niches.

Garrett Pierce, chief financial officer for the Company, also discussed improvements in the company's capital structure and cash flow. He described the company's new three-year, \$250 million revolving credit facility. He also described the company's progress toward implementing an improved program to monetize the long-term receivables that it generates each year in the normal course of business. By securitizing on an ongoing, non-recourse basis through a special-purpose funding vehicle, the company anticipates that it would be able significantly to reduce its use of cash, lower its cost of funds, smooth its quarterly cash flows and lower

its
receivables balances. Pierce noted that negotiations with third
parties are
currently underway to put in place such vehicles.

Following the company's presentations, its guests took the floor
as
Sensormatic hosted a "Town Hall" open question-and-answer session. In
the
Town Hall forum, Sensormatic's senior staff fielded questions
touching upon
a wide range of issues relating to the company and the electronic
security,
sensing and tracking business.

Today, Sensormatic executives will focus on the company's
longer-term
outlook, with an emphasis on quality revenue growth. The day will
include
discussions of technology trends and new product initiatives. The
Company
will also review its program of process re-engineering and continuous
improvement known as "Q3."

Brad Kane, vice president of Retail Product Line Management,
will
discuss Sensormatic's EAS technology strategy. Sensormatic holds an
estimated 64 percent of the worldwide market for EAS. Its strategy
capitalizes upon the strengths of its proprietary UltraMax technology
as
well as its electromagnetic (EM) technology. Lower manufacturing
costs,
improved deactivation and a move toward common platforms will be
highlighted. In addition, Kane will outline the company's activities
to
address the continued strong demand for Sensormatic's hard tags in
the
softgoods marketplace, as well as the company's alliances with
business
partners including Paxar, Monarch Marking and Wallace Computer
Services.

Bob Ritchey, vice president of Integrated Security Systems
(ISS), will
describe the worldwide market for those types of video, access
control, and
asset protection and tracking products that Sensormatic now offers.
This
market is growing at an estimated annualized rate of 18 percent, and
is
projected to reach nearly \$3 billion by the year 2000. Sensormatic
estimates that it is currently the leader in its targeted markets
within
access control, video products and CCTV systems. Products under
development
in ISS apply open system design standards to facilitate
interoperability.

Olin Giles, Sensormatic's chief technology officer, will give a
talk

on **RFID** . Giles likens an **RFID tag** to a "portable database" with applications to the supply chain such as counterfeiting prevention, logistics management and perpetual inventory. Sensormatic has been developing RFID technology for the last 15 years. RFID was at the heart of Sensormatic's Olympic security program. Giles will outline Sensormatic's approach to RFID supply chain applications. This approach, nicknamed the "Russian Doll" approach, employs tags of various sizes for use on track pallets, cartons, and individual units of merchandise.

Garrett Pierce will speak on Sensormatic's program of process re-engineering and continuous improvement that was introduced in 1996. The company is currently in the third of five phases of re-engineering. The re-engineering is scheduled to be completed at the end of 1998. Pierce will note that the program is currently on schedule and that benefits are accruing ahead of schedule.

Sensormatic Electronics Corporation, the Official Electronic Security Supplier for the 1996 Olympic Games, is a leading supplier of electronic security systems to the retail, commercial and industrial marketplaces. Sensormatic is also a leader in integrated source tagging -- a process where consumer goods manufacturers apply anti-theft tags at the point of packaging or manufacturing.

For more information on Sensormatic, visit its home page on the World Wide Web at <http://www.sensormatic.com>

This news release may contain forward-looking statements that involve risks and uncertainties. A full discussion of Sensormatic Electronic Corporation's operations and financial condition, including factors that may affect the Company's business and future prospects, is contained in documents the Company files with the SEC, such as form 10-Q and 10-K reports. These documents identify important factors that could cause the company's actual performance to differ from current expectations. -0-

NOTE TO EDITORS: In the World Wide Web address noted in this news release, there is a double slash between [http:](http://www.sensormatic.com) and www.sensormatic.com. These symbols may not appear properly in some systems.

CONTACT: Sensormatic Electronics Corp.
Alison Tanner, Director of Investor Relations
561/989-7556

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INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of
business)
NAICS CODES: 334511 (Search, Detection, Navigation, Guidance,
Aeronautical, and Nautical System and Instrument Manufacturing)
TICKER SYMBOLS: SRM
SPECIAL FEATURES: COMPANY

... prevent theft. Sensormatic will be demonstrating its new
high-speed
label application formats, including its **cartridge** label, in its
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European Retail, Sensormatic's...to facilitate interoperability.
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logistics...

19/K,9/10 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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14958098 SUPPLIER NUMBER: 91251314 (THIS IS THE FULL TEXT)
**Fargo Electronics, Inc. Introduces The \$1,295 Persona CardJet C7 At
ASIS.**

Business Wire, 0070
Sept 10, 2002

LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 775 LINE COUNT: 00079

TEXT:

Business Editors & Technology Writers
ASIS International Annual Seminar
Booth 1435
PHILADELPHIA--(BUSINESS WIRE)--Sept. 10, 2002
Fargo Electronics, Inc. (Nasdaq:FRGO), the world's leader in
innovative technologies for desktop plastic card personalization
systems,
today introduced the Persona(R) CardJet(TM) C7 Card Printer at the
48th
Annual American Society of Industrial Security Seminar and Exhibition
here
September 10-12 at the Pennsylvania Convention Center (Booth 1435).
Based
in Eden Prairie, Minnesota, Fargo Card Printer/Encoders create
personalized

plastic identification cards complete with digital images and text, lamination, and electronically encoded information.

"With the introduction of this innovative technology, Fargo is changing the face of card printing," said Gary R. Holland, President and CEO of Fargo. "Inkjet printers are rugged, durable and widely used. Our introduction of thermal inkjet printing for ID cards opens the door to many companies and organizations, which previously could not afford a dedicated ID card printer/encoder.

"With a Manufacturer's Suggested Retail Price (MSRP) of \$1,295.00, the Persona CardJet C7 is highly competitive with old-fashioned 'cut-and-paste' analog photo-based ID badge systems, particularly when time, labor and card costs are accounted for," Holland said. "The Persona CardJet C7 is hundreds of dollars less than printers currently available. Benefits such as convenience, ease of use, virtually no maintenance, economical supplies and the professional appearance of the ID badges will make the Persona CardJet C7 a clear winner with end users."

"The Persona CardJet C7 Card Printer uses the familiar 'open cover, snap out, snap in' process to replace the SmartLoad(TM) Ink Cartridges," said Kathleen Phillips, Fargo's Vice President - Marketing. "Loading the special CardJet Cards is just as easy: the SmartLoad(TM) Card Cartridge is loaded from the top of the printer, then clicks into place. Both SmartLoad Ink and Card Cartridges are designed for error-free, one-way-only loading.

"A special radio frequency identification (**RFID**) tag on each SmartLoad Ink Cartridge and a "smart chip" on the base of the SmartLoad Card Cartridge communicate with the Persona CardJet C7 printer, as well as the customer's personal computer. The tags and chip automatically track card printing, and warn the operator when either card or ink supplies are low," Phillips notes. "If the ink or card cartridges are removed, the tags and chip each 'remember' the precise count and resume at that number when replaced in the printer."

Initially, the CardJet C7 will be offered with a 50-count SmartLoad Card Cartridge, a 750-count SmartLoad black ink cartridge, and a

250-count SmartLoad color ink **cartridge** . No alignment or calibration of the ink cartridges is necessary when the cartridges are replaced.

"Our target market - companies, schools, government and other organizations that typically print smaller volumes of cards per year - want

card printers that are easy to learn, simple to operate, and require virtually no maintenance," said Phillips. "The Persona CardJet C7 operator

can change ink and card cartridges in a matter of seconds, then resume

printing, easily and error-free."

As the world's leading innovator in card personalization systems,

Fargo worked closely with Hewlett-Packard Company's (NYSE:HWP) Specialty

Printing Systems (SPS) Operation, which is selling HP's thermal inkjet

technology to Fargo on an OEM basis, and PPG Industries (NYSE:PPG), which

developed the Teslin sheet-based cards used by the CardJet Printing (TM)

technology.

Fargo Persona CardJet C7 Card Printer Features

-- Fargo CardJet Printing technology and an HP inkjet print engine ensure v

irtually maintenance-free reliability.

-- Top-loading SmartLoad Card **Cartridge** eliminates hassles with 50 pre-loaded cards.

-- CardJet Printing technology delivers full-color, durable cards in as fast as 22 seconds.

-- 600 dpi for full-color images, razor-sharp text, and easy-to-scan bar codes.

-- Specially formulated CardJet ink bonds instantly and does not smear.

-- Snap in SmartLoad Ink Cartridges.

-- Over-the-edge printing creates a high-quality, professional appearance.

-- Abrasion-resistant, non-glare CardJet Cards are ideally suited for applications.

cations that require repetitive swiping such as access control, meal plans,
or time cards.

-- Intuitive LED lights and on-screen status message signals when to change
cards or ink.

-- Transparent hopper access door permits viewable printing and easy changi
ng of CardJet consumables.

-- Hopper access door
conveniently flips up when printer is not in use.

-- One year printer warranty
About Fargo

Fargo Electronics, Inc. (Nasdaq:FRGO) is the world's leader in innovative technologies for desktop plastic card personalization systems.

Based in Eden Prairie, Minnesota, Fargo creates printing systems that personalize plastic identification cards, complete with digital images and

text, lamination and electronically encoded information. Personalized identification cards provide physical, information and transaction security

for a wide variety of applications including retail stores, e-commerce,

government installations, schools, sports and recreation facilities, clubs

and associations and correctional facilities. More than 60,000 Fargo systems are currently installed throughout the U.S. and in over 100 other

countries. For more information, visit Fargo's Web site at <http://www.fargo.com>.

Note to editors: For a JPEG photo file of the Persona CardJet C7,

log on to the Fargo Media Room at http://www.fargo.com/Corporate_info/product_photos.asp, or e-mail your request to pr@fargo.com.

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COMPANY NAMES: Fargo Electronics Inc.

INDUSTRY CODES/NAMES: BUS Business, General; BUSN Any type of business

DESCRIPTORS: Computer peripherals industry

GEOGRAPHIC CODES/NAMES: 1USA United States

FILE SEGMENT: NW File 649

... President - Marketing. "Loading the special CardJet Cards is just
as easy: the SmartLoad(TM) Card **Cartridge** is loaded from the top of the
printer, then clicks into place. Both SmartLoad Ink designed for

error-free, one-way-only loading.

"A special radio frequency identification (**RFID**) **tag** on each SmartLoad Ink **Cartridge** and a "smart chip" on the base of the SmartLoad Card **Cartridge** communicate with the Persona CardJet C7 printer, as well as the customer's personal computer will be offered with a 50-count SmartLoad Card **Cartridge** , a 750-count SmartLoad black ink **cartridge** , and a 250-count SmartLoad color ink **cartridge** . No alignment or calibration of the ink cartridges is necessary when the cartridges are replaced... and an HP inkjet print engine ensure virtually maintenance-free reliability

.

-- Top-loading SmartLoad Card **Cartridge** eliminates hassles with 50 pre-loaded cards.

-- CardJet Printing technology delivers full-color, durable cards...

19/K,9/11 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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09938291 SUPPLIER NUMBER: 20094328 (THIS IS THE FULL TEXT)
The latest in logistics technology - bar none. (Scan-Tech's latest products)
Logistics Management, v36, n10, p75S(3)
Oct, 1997
ISSN: 1089-537X LANGUAGE: English RECORD TYPE: Fulltext;
Abstract
WORD COUNT: 1848 LINE COUNT: 00156

ABSTRACT: Scan-Tech the leader in logistic technology has presented a new array of products. The 1997 trade show will showcase a variety of equipment and software for logistics and transportation professionals.. Scan-Tech will host leading manufacturers of barcode equipment. New technologies include wireless communication, pen-based computing, biometrics, electronic commerce, and electronic data interchange.

TEXT:

Scan-Tech, the premier trade show for logistics technology, showcases the latest products. Here's a look at some of the software and

equipment on display.

Every year, Scan-Tech features the latest and greatest in logistics technology. This year will be no exception. The 1997 trade show, which takes place Nov. 4-6 at McCormick Place in Chicago, will showcase a variety of equipment and software for logistics and transportation professionals. More than 300 manufacturers will bring their wares to this 15-year-old exhibition of data-capture and communications products.

True to its roots as a show for the automatic-identification industry, Scan-Tech will host many leading manufacturers of bar-code equipment. Also on hand will be makers of radio-frequency data-communications and identification devices as well as software vendors.

This year's show has special pavilions where leading-edge technologies will be showcased. Featured technologies include wireless communications, pen-based computing, biometrics, electronic commerce and electronic data interchange.

What follows is a small sample of the products on display at the show.

For more information about any of the products, circle the corresponding Reader Service number on the card in this issue. For information on attending ScanTech '97, call the Reed Exhibition Co. at (203) 840-5670. You also can visit the Scan-Tech Web site (<http://scantech.reedexpo.com>).

LXE Handheld Packs a 386 Processor

LXE's 2330 handheld computer features an Intel 386 processor and DOS 6.22 operating system. The unit also comes with a snap-on handle and PCMCIA expansion slots to plug into other equipment. Other standard features are a backlit keyboard as well as a sealed water- and dust-resisting case.

Options include batch or wireless communications, with 900 Mhz or 2.4 Ghz radios. A keyboard for touch-screen data entry is available as well.

Designed for use in a warehouse or other industrial setting, the device supports batch, terminal emulation, or client-server applications.

It can be hooked to LXE's 6200 and 6400 family of wireless communication systems. The handheld computer also offers real-time, mobile data communications through a wireless connection with any Ethernet or Token-Ring network.

Zebra Offers On-Line Support

Zebra Technologies has released Zebra Internet Product (ZIP) Support, an on-line program that answers technical questions about the company's

products. The service can be accessed through Zebra's Web site (www.zebra.com) or directly at the location (support.zebra.com).

To develop the program, Zebra engineers culled a technical-support database of frequently asked questions and developed responses based on historical cases for the top 80 percent of queries.

Tiris Tag-I(t.sup.*) Provides Unique Item ID

TIRIS **Tag** -i(t.sup.*) **RFID** creates a unique electronic label, ticket, and badge that's paper-thin, flexible, printable, and capable of

being read simultaneously with many other Tag-it labels. It's appropriate

for such industries as overnight delivery, transportation, or logistics

that need quick, accurate, and automatic identification of thousands of objects.

Texas Instruments says this new technology breaks the price-performance barrier to make RFID labels as cost-effective as a consumable product.

Compsee Terminal Arrives Ready to Use

The Apex II Portable Data Collection Terminal from Compsee is designed

to work straight out of the box. It requires no programming manuals because

it comes with three preloaded user programs, which handle asset inventory,

item tracking, and physical inventory.

The handheld terminal, which uses an Intel microprocessor, features

memory options ranging from 128K to 1MB. Custom programs can be written for

the terminal using the internal BASIC interpreter or the Windows-based APEX

Program Generator. The data-collection terminal screen features a 4-line by

16-character display.

Cambar WMS Automates Major Warehouse Functions

The latest version of Cambar's Client/Server Warehousing (CSW) management system includes such functional enhancements as work-order maintenance, a multilingual user interface, and dock scheduling. The software automates all major warehouse functions including receiving and

put away, order grouping, picking and shipping, inventory control, cycle

counting and physical inventory, and report generation.

The package is offered in multiple server configurations with HP 9000,

RS/6000, Sun Solaris, and PC platforms using HP-UX, AIX, UNIX, and Windows

NT. Scheduled for release this fall, the software is priced from \$150,000.

Datamax Printer Makes Label Removal Easy

Datamax's Ovation 2 thermal barcode label printer comes with an improved peel mechanism constructed with a sharper angle for clean label

removal. It also has an adjustable media sensor that provides exact label

sensing on a wide variety of media widths.

Other new features incorporated into the Ovation 2 include a tooled

plastic media guide built into the bottom of the housing, adjustable ribbon

tension control to improve the handling of narrow ribbons, and a new microprocessor design. Priced at around \$200, the printer operates in direct thermal mode. A field-installable thermal-transfer option is available as well, the company says.

Symbol's Wearable Scanner Offers More Band Width

The newest version of Symbol's WS1000 Wearable System offers the Spectrum24 high-performance wireless local area network. Users of this

portable scanner have more radio-wave band width to exchange data with a

host computer.

The WS1000 system gives a warehouse worker the use of both hands to

perform tasks while scanning bar-code-based data. It consists of two lightweight components: a mini-ring scanner worn on the index finger and a

wrist-mounted micro-computer with a display, keyboard, and battery pack.

The device facilitates warehouse receiving and picking.

Spectrum24 gives users 2.4Ghz of band width for intensive data-collection applications. It is designed to comply with the IEEE 802.11

wireless LAN standard that enables communication between wireless radios

from various manufacturers.

Tally Matrix Printer Does 600 Lines a Minute

Tally Printer Corp.'s MT645-600 Line Matrix Printer can reproduce bar

codes, labels, or forms at 600 lines per minute. Its high-inertia shuttle

mechanism assures precise dot placement in a variety of densities. It also

features an easy-to-read control panel that provides access to all printer

functions.

The device employs a state-of-the-art ribbon **cartridge** for quick

ribbon replacement. The stored energy hammer bank print technology is designed for energy efficiency and reliability and is said to serve a virtually unlimited useful life. Suggested retail price is \$5,999.

Manhattan Associates' WMS Boasts New Features

Manhattan Associates has released version 18.0 of its PkMS, a

warehouse-management system designed exclusively for manufacturers and distributors who ship to retail and grocery stores. Modular in design, PkMS is designed to help users achieve total industry integration and successfully compete in today's Quick Response and Efficient Consumer Response environments.

Some of the new enhancements include task management, productivity tracking, work-order management, and appointment scheduling.

Advance Bar-Code Program Speaks Many Languages

Advance Bar Code Technology Inc., in conjunction with StrandWare Inc., will introduce at the Scan-Tech '97 show the ABC Multilingual Bar Code Printing Solutions system - a product line available in customized bundled packages according to specific language needs. The English Windows-based PC compatible software gives users the ability to enter text on bar-code labels in more than 30 languages.

The new product includes software that combines a broad selection of the most popular international fonts with the powerful functionality of StrandWare's Label Matrix Multilingual and the Datamax line of thermal-transfer printers.

Cambar WMS Automates Major Warehouse Functions

The latest version of Cambar's Client/Server Warehousing (CSW) management system includes such functional enhancements as work-order maintenance, a multilingual user interface, and dock scheduling. The software automates all major warehouse functions including receiving and put-away, order grouping, picking and shipping, inventory control, cycle counting and physical inventory, bin replenishment, and report generation, according to the company.

The Client/Server Warehousing package is offered in multiple server configurations with HP 9000, RS/6000, Sun Solaris, and PC platforms using HP-UX, AIX, UNIX, and Windows NT. Scheduled for release this fall, the software is priced from \$150,000.

Genicom Releases New Printer Models

Genicom has expanded its 6000 Series of thermal and thermal-transfer printers to include new models that offer higher resolution and improved price/performance. The new models include both direct thermal and thermaltransfer printers for industrial and desktop use, with resolution up to 300 dpi, the ability to print labels up to four inches wide, and fast

print speeds.

Genicom also will demonstrate its latest impact bar-code printers at the Scan-Tech show. The company says its new 3800 serial matrix printers offer the fastest throughput in their class (up to 900 cps) and feature an improved user interface and autointerface switching. The 4000 Series line matrix printers include a new model with a zero-tear feature for instant access to labels and forms with no paper waste.

Catalyst Issues Training CD

Catalyst now offers CD-ROM training to supplement the company's current hands-on training program. CD-ROM training is intended to instruct supervisors and end users on the operation of the company's Warehouse Management System, including receiving, put-away, picking, and shipping. It teaches endusers how to employ RF equipment and shows supervisors how to use management and reporting functions.

The CD-ROM training ensures proper use of the WMS so customers utilize the full potential of the system. Catalyst says this type of instruction provides flexibility in training users on the system, taking into account new employees, turnover, and employee availability.

Somerset WMS Works With Oracle

The newest version of Somerset's warehouse-management system, WMS 4.0, was developed using the latest object-oriented, client-server, and Oracle enterprise-development technologies to provide configurability, portability, and expandability. WMS 4.0 is fully integrated with bar coding and radio-frequency data collection and supports advance shipment notification, customer-specific labeling, and value-added services.

Capable of supporting raw-materials and finished-goods inventory in one or multiple facilities, this software controls distribution functions from inbound planning, receiving, and put-away to shipping and delivery confirmation.

Welch Allyn Scanner Reads 2D Codes

The IT4400 fixed position scanner from Welch Allyn is the latest member of the company's family of two-dimensional-code datacapture products. The scanner can read the new generation of 2D matrix and stacked linear codes as well as conventional linear symbologies.

As a fixed-mount scanner, the new unit is ideal for high-speed, two-dimensional fixed-position scanning throughout manufacturing and health-care environments. The ability to read postal-specific codes

allows
postal field auditors to use the IT4400 to track mail flow and
delivery
time.

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SPECIAL FEATURES: photograph; illustration
COMPANY NAMES: Scantech Computer Systems Inc.--Product introduction
DESCRIPTORS: Computer industry--Product introduction
PRODUCT/INDUSTRY NAMES: 3573100 (Computers)
SIC CODES: 3571 Electronic computers
FILE SEGMENT: TI File 148

... top 80 percent of queries.
Tiris Tag-I(t.sup.*) Provides Unique Item ID
TIRIS Tag -i(t.sup.*) **RFID** creates a unique electronic label,
ticket, and badge that's paper-thin, flexible, printable, and
state-of-the-art ribbon **cartridge** for quick ribbon replacement. The
stored energy hammer bank print technology is designed for energy...

19/K,9/12 (Item 3 from file: 148)
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WORD COUNT: 5030 LINE COUNT: 00416

TEXT:

970 Syscon Rd, Burlington Ontario, Canada, L7L 5S2 Phone 905-
681-8575
Fax 905-681-8580
BOOTH 12097
Automated assembly equipment. Vibratory bowl feeding equipment.
Rotary
bowl feeding equipment. Waterjet and abrasivejet cutting equipment.
E
ALEX PRODUCTS INC. 1554 N Case St Orange, CA 92667 Phone 714-
283-1142
Fax 714-637-3934 BOOTH 13098
Modular construction elements, linear motion components, and
conveyor
profiles.
AC DELCO SYSTEMS 2401 Columbus Ave PIt 16 Anderson, IN 46018
Phone
317-646-2409 Fax 317-646-7007 BOOTH 20102
Custom-made material handling equipment including conveyors,
chutes,

and hopper to transport parts or assemblies.

ACRADYNE PO Box 16457 Portland, OR 97216 Phone 503-254-6600 Fax 503-255-2615 BOOTH 16067

Assembly systems consisting of Acra-Feed automatic screwfeeders, multi-head screwfastening systems, and multiple spindle nutrunners.

ACRO AUTOMATION SYSTEMS INC. 2900 W Green Tree Rd PO Box 09401 Milwaukee, WI 53209 Phone 414-352-4540 Fax 414-352-1609 BOOTH 13087

High-speed assembly machinery featuring non-synchronous power and free systems and synchronous in-line and rotary machines and robotic assembly systems.

ACUITY IMAGING INC. 9 Townsend West Nashua, NH 03063 Phone 603-598-8400 Fax 603-598-4684 BOOTH 15122

Machine vision inspection systems for assembly verification, measurement, part location, motion guidance, and flaw detection.

ADEPT TECHNOLOGY INC. 150 Rose Orchard Way San Jose, CA 95134 Phone 408-432-0888 Fax 408-432-8707 BOOTH 18050

Flexible automation products including robots, machine controllers, vision systems, and automation software. Turnkey flexible automation systems.

ADHESIVE PACKAGING SPECIALTIES INC. 103 Foster St Peabody, MA 01960 Phone 508-531-3300 Fax 508-532-8901 BOOTH 16130

Custom packaging of single and multicomponent resin systems. A-Pak flexible divider pouch. Vac-Pak. Mixpac dual **cartridge** . Premixed and frozen resin packaging. Semkit [R] cartridges.

ADTECH INC. 2100 Brooklyn Rd Jackson, MI 49203 Phone 517-787-7160 Fax 517-782-0527 BOOTH 15104

Impact and orbital riveting equipment and automated assembly systems.

ADVANCED SYSTEMS GROUP, DIV. OF JERGENS INC. 19520 Nottingham Rd Cleveland, OH 44110 Phone 216-486-2100 Fax 216-481-4519 BOOTH 18073

Tools for assembly. DC electric and portable tools. Lead trimmers, screw presenters, and torque testing equipment.

ADVANCED TECHNOLOGY PRODUCTS PO Box 335 Milford Center, OH 43045 Phone 513-349-4055 Fax 513-349-4155 BOOTH 18077

Precision made polyurethane spiral hose and tubing.

AERO-MOTIVE CO. PO Box 2678 Kalamazoo, MI 49003-2678 Phone 800-999-8559 Fax 800-333-6119 BOOTH 20041

Ergonomically designed modular workstation system with adjustable work surfaces that adapt to 95% of all worker heights; torque reactive arms and tool balancers.

AG-DEVICES INC. 1899 Berry Rd LaFayette, NY 13084 Phone 315-683-5666

Fax 315-683-5666 BOOTH 15130

Ribbon cable separators and processing equipment.

AIDLIN AUTOMATION CORP. PO Box 13125 Sarasota, FL 34278 Phone 813-756-0641 Fax 813-756-0645 BOOTH 17064

Assembly systems, systems integration, and line of resistance welding

machines that include weld heads and controls.

AIMCO PO Box 16457 Portland, OR 97216 Phone 503-254-6600 Fax 503-255-2615 BOOTH 15029

Ergonomically designed hand-held power tools featuring pulse tool

technology, AIM/Uryu pneumatic tools, Electra series electric screwdrivers

including clean-room models, and Ergo-Arm tool support systems.

Torque

testing and monitoring equipment, automatic screwfeeding systems, tool

balancers, air hose, and related accessories.

AIR-HYDRAULICS INC., BLACK & WEBSTER DIV. 545 Hupp St PO Box 831 Jackson, MI 49204 Phone 517-787-9444 Fax 517-787-7585 BOOTH 17005

Assembly and forming presses, including air-over-oil, hydraulic and

pneumatic; Electropunches, Protectoswitch, and Locolite; heavy-duty index

tables and special machines.

ALLEN-BRADLEY CO. 1201 S Second St Milwaukee, WI 53204 Phone 414-382-2000 Fax 414-382-4477 BOOTH 19059

Industrial automation control products for use in assembly: barcode

readers, photoelectric and proximity sensors, limit switches, vision inspection systems, small programmable controllers.

ALPHATRON INC. PO Box 8048 Elburn, IL 60119 Phone 800-766-6486 Fax

708-365-5646 BOOTH 15078

Manual and motorized wire crimp pull testers that are adaptable to a

variety of force measurement applications for quality control, lot samples,

and SPC programs.

ALUM-A-LIFT INC. 7909 Bankhead Hwy Winston, GA 30187 Phone 404-489-0328 Fax 404-489-7247 BOOTH 20117

Device that lifts, lowers, moves, positions, and holds loads too heavy

for the unaided human.

AMERICAN HAKKO PRODUCTS INC. 25072 Anza Dr. Santa Clarita, CA 91355

Phone 805-294-0090 Fax 805-294-0096 BOOTH 19092

Hand soldering irons and desoldering tools, SMD hot air rework tools,

miniwave solder flow pot for component removal and replacement.

AMP INC. PO Box 3608 Harrisburg, PA 17105-3608 Phone 800-522-6752 Fax

717-986-7575 BOOTH 19029

Application tooling for the electronics industry; high-speed assembly

equipment for applying products to various end uses, from hand tools to state-of-the-art machines.

AMTECH 25 Controls Dr. Shelton, CT 06484 Phone 203-926-2677 Fax 203-926-2678 BOOTH 11023

Computer integrated metal welders. Ultrasplice line of wire splicing and termination equipment for electrical, automotive, and appliance industries. Ultraseal-20, used by the appliance and instrument industries for the hermetic sealing of copper and aluminum capillary tubes.

ANATOL AUTOMATION INC. 1060 High St Mundelein, IL 60060 Phone 708-949-0330 Fax 708-949-2901 BOOTH 15097

Automated assembly machines for a wide variety of electronic connectors and electrical components, as well as automotive health care, tele-communications, and consumer products.

ANTENEN RESEARCH PO Box 95 Hamilton, OH 45012 Phone 513-887-4700 Fax 513-887-4703 BOOTH 18061

New and used robots and other equipment for automation.

APOLLO SEIKO LTD. 4718 S Pulaski Rd Chicago, IL 60632 Phone 312-847-2400 Fax 312-847-5107 BOOTH 13122

PC compatible turnkey automated soldering system. PSB one-hand self-feeding solder iron. Sky-Compo automated soldering unit with detachable feeding mechanism.

ARBELL INDUSTRIES PO Box 215, Station A Burlington, Ontario Canada, L7R 3Y2 Phone 905-332-7755 Fax 905-332-0748 BOOTH 11017

Arlink adjustable height workbenches, Series 7000 heavy-duty workbenches, and Series 8000 ergonomically designed modular workstations.

Arstat ESD control products. Aluminum extrusion profiles for guarding, enclosures, and machine bases.

ARO TOOL PRODUCTS PO Box 1776 Liberty Corner, NJ 07938 Phone 908-647-6000 Fax 908-647-6007 BOOTH 14017 Air and electric power tools for industrial applications.

ARON ALPHA/BORDEN INC. 180 E Broad St Columbus, OH 43215 Phone 614-225-3461 Fax 614-225-7167 BOOTH 17122

Rapid bonding high-strength adhesives for instantaneous and permanent bonds to almost all materials. Primers to prepare difficult to bond plastics and accelerator to speed the cure time and/or increase gap filling capability.

ARTOS ENGINEERING CO. PO Box 1650 Waukesha, WI 53187 Phone 414-524-6600 Fax 414-524-0400 BOOTH 13067

Wire processing systems and machinery from bench-top wire strippers to progressive wire termination equipment. Optional system accessories include crimping presses, long wire collectors, slitters, notchers, coiling bowls,

pre-feeders, and wire markers.

ASHBY CROSS CO. INC. 418 Boston St Topsfield, MA 01983 Phone
508-887-2887 Fax 508-887-3829 BOOTH 18087

Meter, mix, and dispense systems; grease dispenser; precision
syringe
dispenser vacuum potting unit; cyanoacrylate dispenser; UV-cure
dispenser;
pumps; handguns.

ASSEMBLY 191 S Gary Ave. Carol Stream, IL 60188 Phone 708-665-
1000 Fax
708-462-2225 BOOTH 20059

ASSEMBLY magazine covers the machines, systems, tools,
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sponsors the
ASSEMBLY Technology Expo. ASSEMBLY serves design and manufacturing
engineers and managers, corporate executives, and purchasing
personnel
responsible for profitable product assembly. September issues of
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and subscription applications available.

ASSEMBLY AUTOMATION INDUSTRIES 1858 Business Center Dr. Duarte,
CA
91010 Phone 818-303-2777 Fax 818-303-8874 BOOTH 14011

Automatic fastener-feeding systems, vacuum pickup screwdrivers,
robotic screwfeeders, turnkey automated screwdriving machines,
transducerized screwdriving spindles, programmable position-ing
systems.

ASSEMBLY MACHINES INC. 2400 Yoder Dr. PO Box 8326 Erie, PA 16505
Phone
814-838-8646 Fax 814-833-5592 BOOTH 15005

Standard cam-actuated, 5-, 12-, and 24-station synchronous
linear or
rotary assembly machines for small parts assembly and test.

ASSURANCE TECHNOLOGIES INC. 503-D Hwy 70E. Garner, NC 27529
Phone
919-772-0115 Fax 919-772-8259 BOOTH 16097

Robotic force/torque sensors for feedback on quality of
assembly.
Compliance devices to assemble close tolerance pans. Automatic tool
changers for quick change of tooling. SigMA [TM] signature monitoring
and
analysis process verification systems for 100% on-line inspection.

ASYMTEK 1949 Palomar Oaks Way Carlsbad, CA 92009 Phone 619-431-
1919.
Fax 619-431-2678 BOOTH 15067

Automated dispensing equipment for fluids such as adhesives,
grease,
ink, and gasketing material. Benchtop units, conveyORIZED systems for
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and in-line processes, and dispensing enhancements.

AT&G COMPANY INC. 109 Pine St Lexa, AR 72355 Phone 800-643-0122
Fax
800-227-7630 BOOTH 18113

Power and hand fastener drive tools, insert bits, power bits,

nutsetters, bit holders, screwdrivers, and nutdrivers.

ATEQ CORP. 42040 Koppernick Rd Canton, MI 48187 Phone 313-451-9449 Fax 313-451-9462 BOOTH 16122

Leak/flow testing instruments for automated or semi-automated assembly/manufacturing processes. Pressure or vacuum testing units with multipl test heads for up to 50 stations, automatic calibration, and pressure and temperature compensation.

ATLAS COPCO BEREMA INC. 161 Lower Westfield Rd Holyoke, MA 01040 Phone 800-760-4049 Fax 800-952-7975 BOOTH 18129

Hand-held Attexor Spot Clinch [R] unit that uses factory compressed air and a two-stage punch and anvil process to make leak-free joints in sheet metal parts

ATLAS COPCO TOOLS INC. 37735 Enterprise Ct., Suite 300 Farmington Hills, MI 48331 Phone 810-489-1260 Fax 810-489-0130 BOOTH 19099 Assembly power tools, pneumatic and electric, ergonomically designe to increase operator productivity. Pneumatic and DC electric screwdrivers and nutrunners.

AUTOMATED PRODUCTION SYSTEMS INC. 2840 Pine Rd Huntingdon Valley, PA 19006 Phone 215-938-1000 Fax 215-938-8480 BOOTH 17111

Axial and radial component trimmers/formers; DIP lead formers, trimmers and straighteners; mass lead trimmers; axial, radial and SMD component counters; axial component taping machines; vibratory bowl feeders for axial and radial devices; SMT pick-and-place systems; SMT IR rework stations; SMD screen printers, and batch reflow ovens.

AUTOMATIC FEEDER CO. INC. 685 Lunt Ave. Elk Grove Village, IL 60007 Phone 708-439-1829 Fax 708-439-1845 BOOTH 16116

Automated conveyor system with centrifugal feeder and pick-and-place mechanism.

AUTOMATION & MODULAR COMPONENTS INC. 2250 N Opdyke Rd Auburn Hills, MI 48326 Phone 810-373-3900 Fax 810-373-7021 BOOTH 17011

Domestically manufactured modular components and conveyor systems for factory automation. Power and free aluminum extruded conveyors for handling loads from few ounces to 650 lb. Aluminum extrusions, custom guarding systems, and modular ergonomic work stations.

AUTOMATION TOOLING SYSTEMS INC. PO Box 32100, Preston Centre Cambridge, Ontario Canada, N3H 5M2 Phone 519-653-6500 Fax 519-653-6533 BOOTH 16029

Computer-controlled and monitored factory automation systems

including
part feeders, transport mechanisms, robots, and test equipment.
Systems
integration services.

AUTOMATION UNLIMITED 26 Conn St Woburn, MA 01801 Phone 617-933-7288
Fax 617-933-2042 BOOTH 17080

Bench top and automatic in-line liquid dispensing systems with vision for paste and adhesive in SMT applications. Conveyorized systems for single point soldering, pc board depaneling, and routing. Automatic soldering machines.

AZCO CORP. 385 Falmouth Ave. Elmwood Park, NJ 07407 Phone 201-791-1428
Fax 201-791-8420 BOOTH 11001

Guillotine, traveling/circular, and rotary cutter knife assemblies and cut-to-length units for a wide variety of materials. Stock and custom units are available.

BALOGH T.A.G. 3990 Varsity Dr. Ann Arbor, MI 48108 Phone 800-252-RFID
Fax 313-971-9007 BOOTH 18032

Controller interface, BIGE, that connects to the General Electric Genius network via twisted pair cabling. Interface can also be used with read-only, read/write and high-speed **RFID tags**.

BARRINGTON AUTOMATION 6170 Factory Rd Crystal Lake, IL 60014
Phone 815-477-1400 Fax 815-477-9818 BOOTH 20001

Precision automation components: pick-and-place modules, end effectors/grippers slides, rotary drives, switches, and automation workcells. Structural aluminum extrusion modules and fastening hardware.

BELCAN ENGINEERING GROUP, SPECIALTY EQUIPMENT ENGINEERING DIV. 28999
Aurora Rd Solon, OH 44139 Phone 216-349-5200 Fax 216-349-3286 BOOTH 11022

Complete turnkey assembly systems, systems integration, specialty equipment engineering, control systems engineering, engineering concept studies, product and process design and development.

BETA TECH INC. PO Box 426 Roseville, MI 48066 Phone 810-772-4612
Fax 810-772-2310 BOOTH 19051

Products for threaded fastening process control including BetaFSC and BetaFSC-Plus controllers for electric and pneumatic nutrunners, BetaCERT power tool certification system, and BetaCELL data collection network system.

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Phone
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Automatic stamping, forming, welding and assembly machine,
provide
full turnkey ability, from design, to function, to training. Plus
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Rodless cylinders; linear thrusters; position feedback
cylinders;
plastic end cap cylinders; and stainless steel body air cylinders:
nonrepairable roundline design; repairable NFPA-interchangeable tie-
tube
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ergonomic
seats for workers of shorter stature are optional. Floating back
control
option allows independent backrest adjustment.

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BOSCH AUTOMATION PRODUCTS 816 E Third St Buchanan, MI 49107
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616-695-0151 Fax 616-695-5363 BOOTH 19005 and 19017

Modules for factory automation systems including aluminum
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framing, ergonomic workplace equipment, non-synchronous assembly
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linear motion modules, and a new TSO non-synchronous assembly
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Software for 3-dimensional design and ergonomic planning, board
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conveyors, and torque and press-fit equipment.

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412-276-4400 Fax 412-276-4457 BOOTH 13037

Radialform joining technology for riveting, swaging, flaring and
crimping solid and tubular materials including metals, alloys, die
castings, and thermoplastics. Single and multi-point riveting systems
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manual, semi-automated or automated configurations.

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Phone
203-796-0400 Fax 203-796-9813 BOOTH 19016

Ultrasonic, vibration welding, and hot plate equipment for
plastics
joining including the new WPC-2 Weld Profile Controller and the new

Hi-Line

Vibration Welder. Also an ultrasonic power supply and actuator component

system, an integrated ultrasonic welder, and a hot plate welder.

CABLESCAN INC. 145 E Emerson Ave Orange, CA 92665 Phone 714-998-1961

Fax 714-921-2493 BOOTH 16052

Continuity and high-voltage testers for testing harnesses, cables, flat cable, and backplanes. Electronic harness build aids, including computerized workstations.

CAMBRIDGE AUTOMATIC 3 Huron Dr Natick, MA 01760 Phone 508-653-9002 Fax

508-651-3687 BOOTH 20105

Insertion and assembly machines, pin and terminal inserters for both loose and strip-fed parts, eyeletting and riveting machines, and roll pin inserters, in both manual and fully automatic configurations.

CAMCO, COMMERCIAL CAM CO. INC. 1444 S Wolf Rd Wheeling, IL 60090 Phone

708-459-5200 Fax 708-459-3064 BOOTH 17017

Index drives, parts handlers, conveyors, custom cams, servo systems, and controls.

CAMELOT SYSTEMS INC. 145 Ward Hill Ave Haverhill, MA 01835 Phone 508-373-3742 Fax 508-521-2105 BOOTH 13111

CAM/ALOT automated dispensing systems, models 1414, 1818, and system

5000 for adhesives, RTV, silicones, epoxy, and encapsulation.

CAMRON AUTOMATION INC. 189 Gordon St Elk Grove Village, IL 60007 Phone

708-981-0981 Fax 708-981-9593 BOOTH 18115

Custom automation assembly machinery for the automotive, electronic, electrical medical, and appliance industries. Rotary and inline index, walking beam, continuous motion, and non-synchronous transfer systems for

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315-682-9176 Fax 315-682-9160 BOOTH 15123

Automatic equipment for wire, flat cable, and plastic tubing. Automatic and semi-automatic wire stripping and cutting equipment for all

types of wire, co-axial cable, and flat cable. Automatic measure, cut, and

strip machine for hook-up wire.

CARR LANE MFG. CO. 4200 Carr Lane Ct St. Louis, MO 63119 Phone 314-647-6200 Fax 314-647-5736 BOOTH 17045

Tooling components, chuck jaws, drill jig bushings, toggle clamps, modular fixturing, plug gages, threaded inserts, Swiftsure power work holding equipment and CAD/CAM tooling component library.

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TR1000 Stand alone routing system for pc board extraction. Adjustable fixturing accommodates any pc board design to meet depaneling requirements.

CHERRY COMMERCIAL FASTENING SYSTEMS, DIV. OF TEXTRON INC. 1224 E Warner Ave PO Box 2157 Santa Ana, CA 92707-0157 Phone 714-540-6611 Fax 714-850-6097 BOOTH 17094

Engineered and standard blind rivets, manual and semi-automated pneumatic/hydraulic installation tools, automated installation systems, and ergonomic workstations and tools.

CHICAGO PNEUMATIC TOOL CO. 2200 Bleecker St Utica, NY 13501 Phone 800-367-2442 Fax 800-232-6611 BOOTH 17023

Power assembly tools including pulse tools, screwdrivers, nutrunners, drills, grinders, impact wrenches, squeeze riveters, and air-line accessories.

CIBA-GEIGY CORP. 4917 Dawn Ave East Lansing, MI 48823 Phone 517-351-5900 Fax 517-351-9003 BOOTH 13006

CINCINNATI TEST SYSTEMS INC. 5555 Dry Fork Rd Cleves, OH 45002 Phone 513-367-6699 Fax 513-367-5426 BOOTH 16105

Sentinel I-21 leak detection instrument. Pressure decay and mass spectrometer turnkey systems include part fixturing. Calibrated leak orifices for verification of leak and flow applications. Assembly verification systems using magnetic displacement sensors.

CLARK ASSOCIATES INC., C.F. 2420 E Oakton St, Unit 1 Arlington Hts, IL 60005 Phone 708-228-1961 Fax 708-228-1993 BOOTH 11006

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CLIPPARD INSTRUMENT LAB. INC. 7390 Colerain Ave Cincinnati, OH 45239 Phone 513-521-4261 Fax 513-521-4464 BOOTH 13017

Fluid-power components and devices: pneumatic and electronic interfaces and controllers; 2-, 3-, and 4-way valves; electronic sensors; stainless-steel and brass cylinders.

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Checkpoint machine vision system for automated visual inspection, which include a flexible Windows-based graphical user interface. Applications include automated part inspection, assembly verification, dimensional measurement, and part alignment.

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SmartWave [TM] inductive, capacitive, and microwave arrays that

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Pneumatic automation solutions engineered for limited space applications.

COMPAIR PNEUMATIC 9 Cutts Rd Kittery, ME 03904 Phone 207-439-9511 Fax

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COMTECH INC. PO Box 3079 Farmington Hills, MI 48333-3079 Phone 313-476-3960 Fax 313-476-1918 BOOTH 16099

Colombi spring detangling, feeding, and coiling machinery. MRW Robopot vision system for parts orienting and feeding. MAFU parts feeding machinery.

CONSOLIDATED DEVICES INC. 19220 San Jose Ave City of Industry, CA

91748 Phone 800-525-6319 Fax 818-810-2759 BOOTH 20101

Mechanical and electronic torque wrenches and test equipment. Power

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CONVUM INTERNATIONAL CORP 1510 Midway Ct, Suite E-107 Elk Grove Village, IL 60007 Phone 708-364-6574 Fax 708-364-5869 BOOTH 16134

COOPER POWER TOOLS PO Box 1410 Lexington, SC 29071-1410 Phone 803-359-1200 Fax 803-359-0822 BOOTH 17063

Gardner-Denver assembly tools and hoists; Dotco material-removal tools; Buckeye and Doler fixtured drilling equipment; Apex fastener tools

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Packaging and dispensing systems for storage, mixing, and application

of single or multi-component adhesives and sealants. Semkits, cartridges,

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COVMEX, DIV. OF BRANDON INTERNATIONAL 5152 Commerce Dr Baldwin Park, CA 91706 Phone 818-960-4981 Fax 818-337-5075 BOOTH 20097

Contract assembly services for industrial sewing, custom

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COX AUTOMATION 31 W041 North Ave West Chicago, IL 60185 Phone 708-293-9470 Fax 708-293-9474 BOOTH 18040

Design and fabrication of automated assembly, testing, metal removal, special process, and leak test machinery. Stand alone machines and integrated systems using walking beam, rotary dial, carousel, and palletized modules. Interface displays to provide operators with set-up instructions, fault clearing procedures, and machine diagnostics.

CRANE ELECTRONICS INC. 4601 3rd St Moline, IL 61265 Phone 309-762-2285

Fax 309-762-6356 BOOTH 14051

Readout torque analyzer with printer. Torquestar data collector. Self-identifying transducers including the new Checkstar with angle, Toolstar with vision to analyze, measure, plot, print, and store. Electronic torque wrenches and screwdrivers, torque test benches, digital torque wrenches and screwdrivers, torque monitoring and controlling equipment, fault logging system

CREATIVE AUTOMATION CO. 11641 Pendleton St Sun Valley, CA 91352 Phone

818-767-6220 Fax 818-767-0123

BOOTH 17086

Custom automated assembly and fabrication systems; stand-alone, bench top and in-line automated dispensing systems: hand held piston positive displacement pump; single point soldering systems.

CREATIVE ROBOTIC APPLICATIONS INC. 1780 Corporate Dr Norcross, GA

30093 Phone 404-717-5227 Fax 404-717-5166

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Automation assembly work cells. Assembly, test, and conveying systems.

Pallet and material transfer system.

CRITCHLEY INC. 1920 Waukegan Rd Glenview, IL 60025 Phone 708-966-7052

Fax 708-966-3642

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Cable and wire identification products. Heat shrinkable products, label and bar coding material and equipment. Wire and cable conduit and ducts. Thermal transfer printers and labels.

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Fax 603-532-8336

BOOTH 18051

Specialty nails, pins, cold-formed fasteners, insertion machinery.

CROSSLINK TECHNOLOGIES INC. 3103 Cannongate Dr Fort Wayne, IN 46808

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Full service design, implementation, and production trouble shooting

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Impact presses for marking, stamping, riveting, staking, and assembly.

Computer-controlled dot-matrix marking equipment to suit incline requirements.

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Mechanical index drives, including basic, compound, pick-and-place, and walking-beam; indexer-mounted speed reducer drive.

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D-G INDUSTRIES 226 Viking Ave Brea, CA 92621 Phone 714-990-3787 Fax

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Automatic screwfeeding and screwdriving equipment. Ergonomic assembly

tool accessories. Ergo-Grip, Bio-Brace, Wristol-Grip, and Smart balance units.

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High-speed positioning tables, microstepping motors and drives, single- and multi-axis motion controllers, precision linear and rotary motorized tables, servo drives.

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Manual, pneumatic, and hydraulic clamping products. Toggle clamps.

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Heat shrinkable, PVC, and Teflon tubing. Custom cut and hot stamp marked tubing High voltage and high temperature sleeving. Wire harnessing products and tools. Motor and circuit protection devices. Wire, cable, and identification products. Pressure sensitive labels. Connectors and IC sockets.

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Friction-free slides and stages including ball slides, crossed roller slides, multiaxis positioning stages with micrometer drives, crossed roller rail sets. and ultra high precision crossed roller slide tables.

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Pneumatic and electric screwdrivers. Vibratory feeder bowl. Stationary and hand-held Sword Feeders. Smooth system with continued counting of screws assembled, parts assembled, and cycle time control. X-Y screw assembly cells an multi-spindle units. Screwdriver spindles with torque/angle control. Screwdrive stands. Cylinder activated screwdrivers connected to feeders.

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Automatic-feed screwdrivers, decorative nail guns, escutcheon pin guns, glide guns.

DESOUTTER INC. 24415 Halsted Rd Farmington Hills, MI 48335 Phone 810-476-5358 Fax 810-476-3819

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Line of pneumatic and electric assembly tools and screwfeeding systems. Screwdrivers have Target-Tork precision torque control clutch. A range of torqu reaction arms and workstations to complement the tools.

Extensive range of automatic feed drilling and tapping spindles.

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Presses, terminal applicator dies, and perishable tooling for large and small wire harness and electronic equipment manufacturers. Applicators accommodate both automotive and appliance terminals and fits in leading terminating equipment.

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815-226-3000 Fax 815-226-0180

BOOTH 18044

Automatic fastener feeding and driving systems using track feed and airveyor feed tube technology. Automatic parts feeding and placing/pressing systems. Tooled assembly components, complete semi-automatic operator workstations, and small turnkey automatic assembly cells.

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Phone

800-553-1777 Fax 319-277-7023

BOOTH 19041

Engineering and manufacturing firm specializing in designing and fabricating automated assembly systems and special machines, engineering consultation, prototype fabrication, and system integration.

DOLAN-JENNER INDUSTRIES INC. 678 Andover St Lawrence, MA 01843-1060

Phone 508-681-8000 Fax 508-682-2500

BOOTH 18116

LED-PAK [R], LPAN-1 fiber optic analog sensor. LPCS-3 ColorScan [TM] color sensor, LPDS Series distance monitor sensor, LPVI Series ultraminiature self-contained sensors, SafeScan [R] machine guards, and machine vision lighting.

DOPAG CORP. PO Box 331 Davisburg, MI 48350 Phone 810-634-6843

Fax

810-634-1597

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Metering, mixing, and dispensing systems for single and plural component adhesives. Small metering and dispensing valves, and electronically controlled two-component application equipment for XYZ or robotic applicators.

DORNER MFG. CORP. 580 Industrial Dr Hartland, WI 53029-0020

Phone

800-397-8664 Fax 414-367-5827

BOOTH 17103

Low-profile and heavy-duty belt conveyors; automated assembly systems including palletized conveyor systems and workstations; vacuum, magnetic, cleared, and roller conveyors.

DUKANE ULTRASONICS 2900 Dukane Dr St. Charles, IL 60174 Phone 706-584-2300 Fax 708-584-3162

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Ultrasonic plastics assembly equipment. Microcomputer-controlled welding system include free-standing presses, hand probes, and rotary systems. System evaluation and custom engineering are available.

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Semi-automatic twist tie machines. Wire, hose, and tubing

coiling
equipment. Hanking equipment. Automatic measure, cut, coil, and twist
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systems. Twist tie ribbon and cut ties.

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1010

Fax 203-496-0608

BOOTH 19050

Line of 100% solvent-free structural adhesives, coatings, and
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that cur by UV, visible light, heat, or activator. Curing and
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equipment. Ultr Light-Weld [TM] visible light curing adhesives and
Visicure

[TM] visible light curing lamps.

DYNACAST INC. 1401 Front St Yorktown Heights, NY 10598 Phone
914-245-0060 Fax 914-245-9048

BOOTH 16057

Die-cast and plastic injection-molded fasteners and custom
components.

DYNOVATION MACHINE SYSTEMS INC.

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INDUSTRY CODES/NAMES: ENG Engineering and Manufacturing

DESCRIPTORS: Manufacturing industry--Directories; Machinery
industry--

Directories; Industrial equipment industry--Directories

PRODUCT/INDUSTRY NAMES: 3549200 (Assembly & Inspection Equip);
3999000

(Manufacturing Industries NEC); 3560000 (General Industrial
Machinery)

SIC CODES: 3549 Metalworking machinery, not elsewhere classified;
3999

Manufacturing industries, not elsewhere classified; 3560 General
Industrial Machinery

FILE SEGMENT: TI File 148

... of single and multicomponent resin systems. A-Pak flexible
divider

pouch. Vac-Pak. Mixpac dual **cartridge** . Premixed and frozen resin
packaging. Semkit [R] cartridges.

ADTECH INC. 2100 Brooklyn Rd Jackson, MI...pair cabling.
Interface can

also be used with read-only, read/write and high-speed **RFID tags** .

BARRINGTON AUTOMATION 6170 Factory Rd Crystal Lake, IL 60014
Phone

815-477-1400 Fax 815...

19/K,9/13 (Item 1 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

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TI DEBUTS TAG-IT MULTI-PROTOCOL TRANSCIVER IC. (Product Announcement)

Computer Protocols, v14, n1, pNA

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Texas Instruments Radio Frequency Identification (RFID) Systems, Dallas, has introduced its new Tag-it(TM) Multi- Protocol Transceiver IC which makes it easier and more cost- effective to build smart label readers for a broad range of 13.56 MHz RFID applications. TI's Multi-Protocol Transceiver IC combines RF communication and signal detection capabilities into a single chip design and is compatible with new open, global standards ISO 15693 and ISO 14443-2 for vicinity and proximity applications.

The Tag-it Multi-Protocol Transceiver IC is a building block of RFID functionality for OEM product design engineers and systems integrators developing smart label readers for personnel access control, product authentication, ticketing, library management and supply chain management applications. The Tag-it Transceiver IC supports multiple 13.56MHz proximity and vicinity protocols including Texas Instruments' Tag-it smart labels, making it possible to develop a single RFID reader design that reads smart labels from multiple sources.

"Anyone considering smart labels in an open system would be more likely to chose products based upon standards rather than proprietary technology," said Tres Wiley, Texas Instruments marketing manager for smart labels. "This offers opportunities for both third party providers and end users, as a single **RFID** reader can support **tags** and cards from different suppliers and be compliant with different standards and technologies at 13.56MHz."

With its small size and low power consumption, engineers can seamlessly integrate the new Transceiver IC into RFID readers used in portable, handheld as well as fixed applications. The Transceiver ICs small size enables RFID to be more easily embedded into devices with small footprints such as a copier, which uses RFID technology to authenticate a brand name printer **cartridge** . No large on-board power supplies are required, and the Transceiver IC's low power design enables extended reader

battery life in portable RFID applications. An RFID smart reader containing the TI Multi-Protocol Transceiver IC can also be easily integrated into traditional barcode portable terminals and printers. The new design of TI's Multi-Protocol Transceiver IC reduces RFID reader product development time, parts count and PWB space. Only a few additional passive components are needed to develop a complete 13.56 MHz **RFID** smart label reader.

The **Tag** -it Multi-Protocol Transceiver IC will be available in Q2 2001.

Texas Instruments Incorporated (NYSE: TXN) is a global semiconductor company and the world's leading designer and supplier of digital signal processing and analog technologies, the engines driving the digitalization of electronics. Headquartered in Dallas, Texas, the company's products also include materials and controls, educational and productivity solutions, and digital imaging. The company has manufacturing or sales operations in more than 25 countries.

Texas Instruments Radio Frequency Identification (RFID) Systems is a leading developer and manufacturer of field-proven (RFID) solutions used in a broad range of applications worldwide. TI became the first multi-national semiconductor company to market RFID Systems with the introduction of TIRIS (Texas Instruments Registration and Identification System) in 1991.

For more information, call 1-800-785-7366 or visit the TI RFID Web site at <http://www.tiris.com>.

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SIC CODES: 3663 (Radio & TV communications equipment)

NAICS CODES: 33422 (Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing)
TRADE NAMES: Texas Instruments Tag-it Multi-Protocol Transceiver IC (Transceiver)

... labels. "This offers opportunities for both third party providers and end users, as a single **RFID** reader can support **tags** and cards from different suppliers and be compliant with different standards and technologies at 13 brand name printer **cartridge** . No large on-board power supplies are required, and the Transceiver IC's low power...

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